a W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

MARCH, 1956

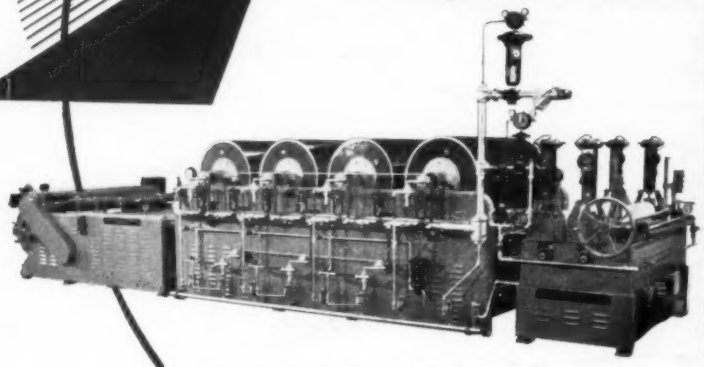
Executive Section 87-102
Mill Equipment Parade 193-197

F. C. Huyck's "Idea Bank" . . 103
Large Packages Cut Costs . . 105
Progress with Ultrasonics . . 107
Stop Mixing Worsted Yarns . . 112
Huntsville Rebuilds Looms on an Assembly Line 116
Dyeing Acrilan-Wool Blends . . 120
Pneumatic End Collector Improves Spinning 122
Lift Trucks—How to Choose and Use Them 124
Make Better Woolen Roving . . 128
Quality Control in the Cloth Room 131
Mass-Produced Batik 134
Mill Uses for Ultraviolet 137
How to Determine Correct Twist for Yarn 145
The Issue of Free Labor 149
Knitting Section 171-181

Complete contents on page 3

Exclusive Features

of the **New Cocker High Speed All Purpose Slasher**



Air operated carrier and delivery rolls

Air operated ironing compressor roll with finger-tip variable pressure control

A fast and simple latch release for beam doffing, requiring no change of position of beam carriage

Self-locking split rod holders

Tension control at two points on the head end

Several important size box improvements

Let us give you full information on this outstanding slasher.

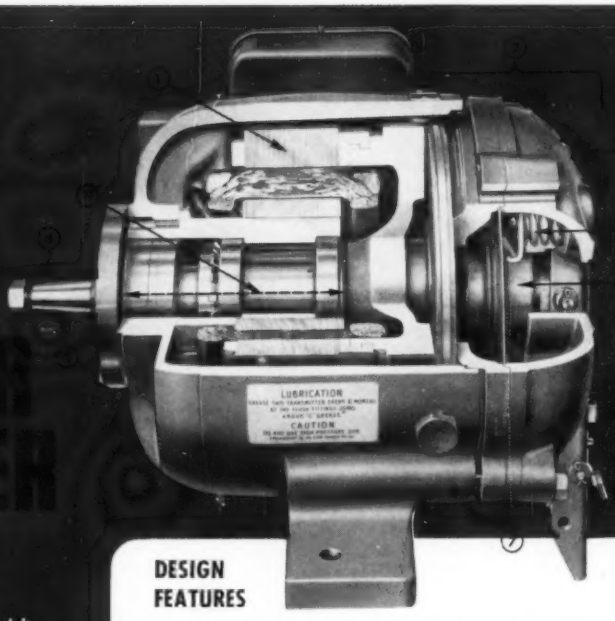
THE LEADER COCKER AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

Here it is!

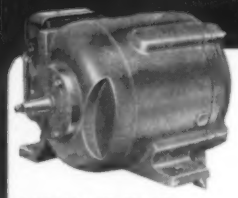
THE NEW DIEHL "BA" POWER TRANSMITTER for Draper Looms



Exclusive new design features mean . . . *consistent* quality production . . . *peak* operating efficiency . . . minimum maintenance, labor and costs!

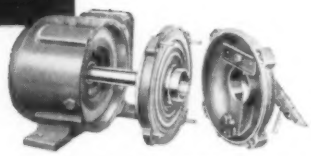
DESIGN FEATURES

*1. High inertia inverted motor provides "stored energy" for smooth, fast starts and positive picking (maximum inertia with minimum size) . . . prevents regeneration.

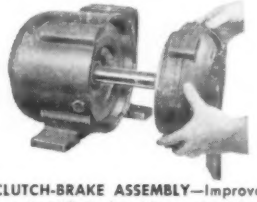


STREAMLINED FRAME
Easy to clean. Roomy terminal box.

KINETIC BRAKING ACTION
(See Feature 6)



CLUTCH-ACTUATING BEARING—A strikingly new and improved method of mounting. (See Feature 5)



CLUTCH-BRAKE ASSEMBLY—Improved, simplified. Readily removable as a unit. (See Feature 2)

The original and only loom power transmitter . . . plus many new and outstanding design and construction features never before incorporated in a loom drive!

Over 40,000 Diehl Power Transmitters have been in continuous operation on DRAPER LOOMS—*most of them more than six years!* The new "BA" Power Transmitter is even *more* compact, more streamlined, *more* efficient and *more* easily installed and serviced than its famous predecessor.

It's an inverted-type high inertia motor combined with a fast, positive clutch-brake mechanism. Note the exclusive new design features—the clutch-actuating bearing mounting . . . the kinetic braking action . . . the unitized clutch-brake assembly. These important advancements mean increased production . . . improved cloth quality . . . lowered operating costs . . . fewer shutdowns. *Write, wire or phone today for full information.*

plus these outstanding New Features

*2. **CLUTCH-BRAKE ASSEMBLY**—Improved and simplified for positive action and ease of adjustment. Removes readily as unit for maintenance, without disconnecting motor from loom frame.

3. **PINION**—Free accessibility for installation and maintenance.

4. **SHAFT**—Large diameter, alloy steel, heat treated—assures long life, eliminates need for outboard bearing.

*5. **CLUTCH-ACTUATING BEARING**—New diaphragm mounting for frictionless clutch action, positive radial rigidity of bearing . . . eliminates fretting corrosion . . . means full self-alignment of bearing for maximum life.

*6. **KINETIC BRAKING ACTION**—For rapid, accurate stops. Particularly desirable for center fork detection looms.

7. **CLUTCH AND BRAKE ADJUSTMENT**—Simple and convenient. Provides visible check on brake alignment.

*8. **CLUTCH-SETTING INDICATOR**—Built integral with unit for instantaneous external checking of clutch setting.

9. **SAFETY LATCH**—Built integral with unit. Prevents accidental engagement of clutch.

10. **CLUTCH-LOADING ASSEMBLY**—Internally located, hence tamper-proof.

11. **SHAFT-END BEARINGS**—Arrangement simplified and improved. Two ball bearings and an extra large roller bearing assure maximum life.

** Exclusive feature—patent protected.*

Diehl

DIEHL MANUFACTURING COMPANY

Electrical Division of THE SINGER MANUFACTURING COMPANY

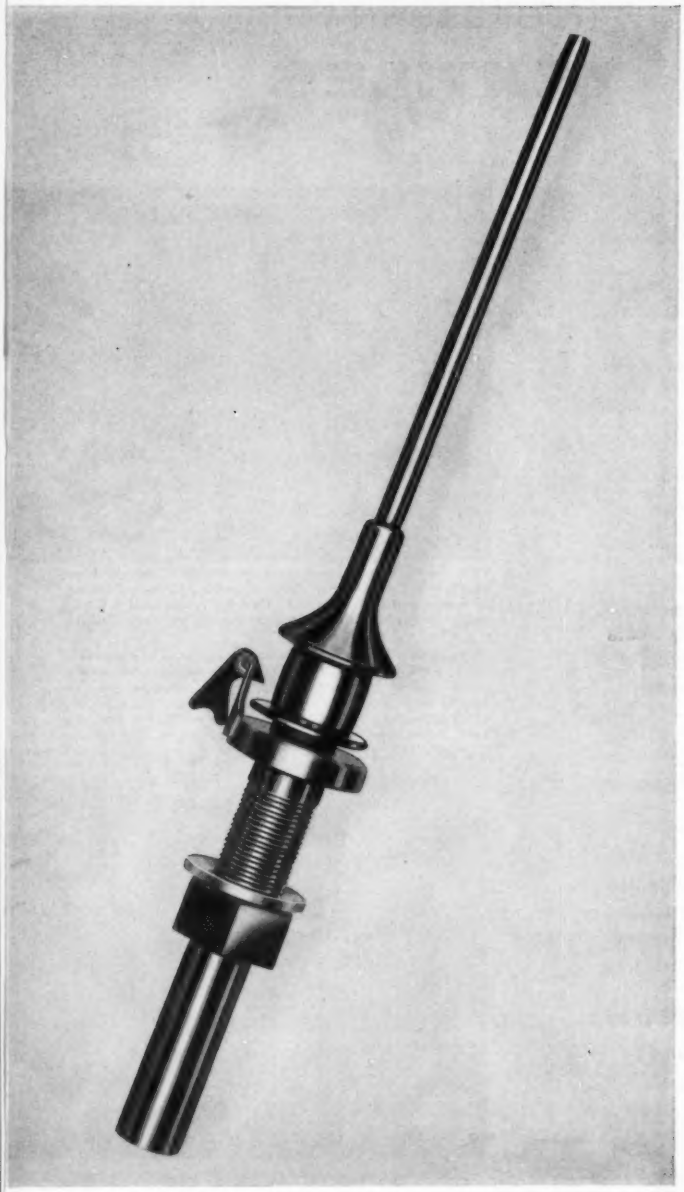
Finderne Plant, SOMERVILLE, NEW JERSEY

ATLANTA • BALTIMORE • CHARLOTTE, N. C. • CHICAGO • CINCINNATI • DETROIT • MILWAUKEE • NEEDHAM, MASS. • NEW YORK • PHILADELPHIA • PITTSBURGH

NEW DESIGN FEATURES

In Draper All-Steel Top Drive Anti-Friction Spindles Permit

BETTER SPINNING AT LOWER COST



New concave collar and washer design makes "plumbing" easier and faster. Spindle slippage is reduced to a minimum.

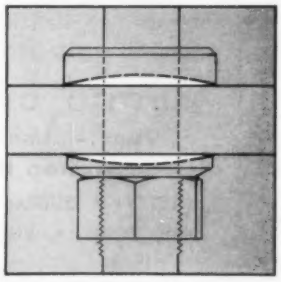
New welded construction eliminates possibility of doffer guards becoming loose.

Incorporated whorl design permits easy removal of waste yarns when doffing and simplifies manual braking. Bolster life, spindle speeds and quality of yarn are all increased.

Power requirements, lubrication cycle, blade vibration and ends down are all reduced.

In addition . . . it's an accepted fact that Draper *conforming fit* maintains a more *even* bobbin line *than any other Top Drive.*

Let a Draper spindle specialist analyze your spindle needs today.



Concave collar and washer design makes "plumbing" easier and faster.

DRAPER CORPORATION

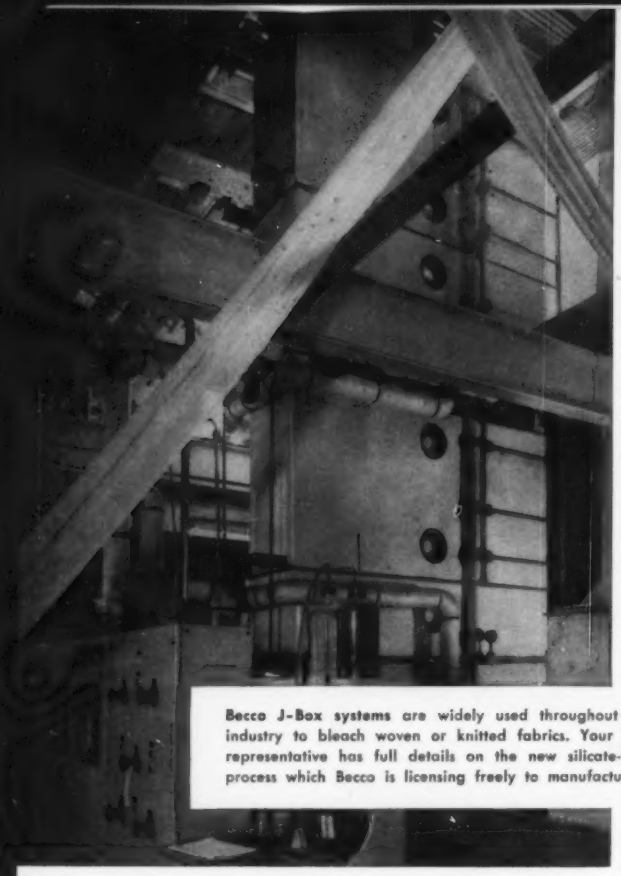
HOPEDALE, MASS.

ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.

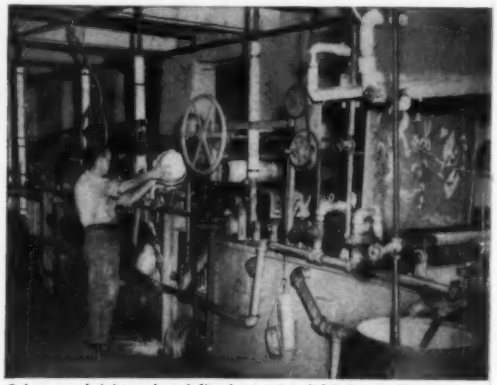
BECCO® PROGRESS

IN PEROXYGEN CHEMICALS
IS EVERYBODY'S
PROGRESS IN

TEXTILES

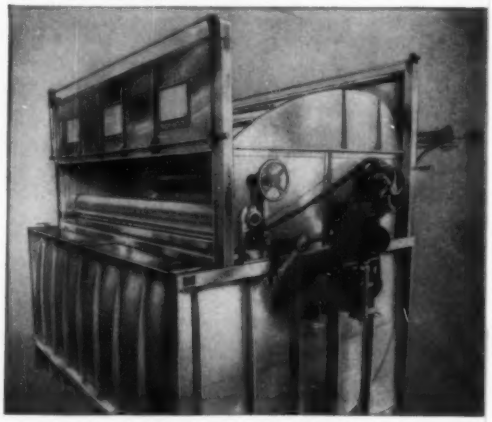


Becco J-Box systems are widely used throughout the textile industry to bleach woven or knitted fabrics. Your local Becco representative has full details on the new silicate-free bleach process which Becco is licensing freely to manufacturers.



Colors are brightened and fixed on printed fabrics at Ahern Textile Print, Inc., Norwich, Conn. by passing through a solution of sodium perborate. Hydrogen peroxide is also used to bleach fabrics before printing by this New England customer of Becco.

Peracetic acid bleaching of acetate rayon, nylon or mixtures of these, with or without cotton or viscose rayon, produces full white without fiber attack and permits complete mote removal, when bleaching cotton mixtures. Dye becks, jigs, and other equipment similar to the Rodney Hunt "Tru-Shade" dye beck shown, are used.



Latest "first" in Becco's long history of leadership in Hydrogen Peroxide and other Peroxygen Chemicals is the recent announcement of SILICATE-FREE formulas for continuous hydrogen peroxide bleaching.

This silicate-free bleach process, patent pending, eliminates scale formation on equipment . . . provides new freedom from shutdown and prevents abrasion damage to the goods.

This and many other patented Becco processes are being freely licensed to the textile industry. Becco also makes available to you its vast experience in bleaching technology, its staff of technically trained field representatives, its strategically located supply facilities.

BECCO CHEMICAL DIVISION
Food Machinery and Chemical Corporation
Station B, Buffalo 7, New York
BOSTON • BUFFALO • CHARLOTTE, N. C. • CHICAGO
NEW YORK • PHILADELPHIA • VANCOUVER, WASH.

fmc
FOOD MACHINERY AND CHEMICAL CORPORATION

BECCO...Progress in Peroxygens

Becco Peroxygen Chemicals: Hydrogen Peroxide • Peracetic Acid • Sodium Perborate • Persulfates and others.

FMC CHEMICALS INCLUDE: BECCO *Peroxygen Chemicals* • WESTVACO *Phosphates, Barium and Magnesium Chemicals* • WESTVACO *Alkalis, Chlorinated Chemicals and Carbon Bisulfide* • NIAGARA *Insecticides, Fungicides and Industrial Sulphur* • OHIO-APEX *Plasticizers and Chemicals* • FAIRFIELD *Pesticide Compounds and Organic Chemicals*

ABC NBP BPA

Textile Industries

Formerly "COTTON"

Vol. 120, No. 3
March, 1956

CONTENTS

Copyright 1956 by W. R. C. Smith Publishing Co.

Management

This Employee Suggestion Plan Pays Off....103
Health Program May Add 10 Years to Working Man's Life....106
Huntsville Set Up an Assembly Line to Rebuild Looms....116
How to Choose and Use a Lift Truck....124
The Issue of Free Labor....149
Dollars Lost in Shipping and Receiving Operations Can Be Saved....213

Cotton

Large Package Changeovers Cut Creeling at Limestone....105
Pneumatic End Collector Improves Spinning....122
Quality Control in the Cloth Room....131
Yardage Knockoff on Ribbon Lapper Cuts Waste....136
How to Determine the Correct Twist for Yarn....145
Having Trouble with Corduroy Selvage Ends? Read This....162
Converted Slubber Twists Knotless High-Ply Yarn....169

Wool

You Can Prevent Those Mixed Yarn Lots....112
How to Improve Woolen Roving Uniformity....128
Check These Points on Woolen Spinning Frames....141
Machine Automatically Measures Wool Fiber Fineness in 4 Minutes....185

Synthetics

Tufting Yarn Spinner Shares Know-How on Making Thinning Scissors....161
Way to Get Better Card Sliver from 1½"-2" Synthetic Staple....183
New Yarn Bulking Process....187
Twister for Nylon Fishnet Yarns....188

Knitting

Planning Prevents Bottlenecks in Hosiery Manufacturing....162
Lick Tension Variation in Nylon Tricot....171
Preventive Maintenance and Experienced Knitters Are Essentials for Good Work on Single-Unit F-F Machines....178
Hosiery Men Discuss Impact of $1 Minimum Wage Law....179
Knitter Hints No. 42 (Uniform Hose Dyeing)....181

Wet Processing

Ultrasonics in the Textile Industry....107
Dyeing Acrilan-Wool Blends....120
How to Apply Copper 8 Quinolinolate to Yarn for Mildew Resistance....123
The Batik Process Adapted to Production....134
How to Get More Service from Rubber Rolls on Finishing Equipment....142
Don't Overlook the Benefits of Heat Recovery Equipment....143
Readers Discuss Causes of Width Variation in Finishing....157
Reader Says We're Wrong on Preparation of Latexes....165
Loom Beam Makes an Expense-Saving Unloading Roll for Dye Beck....169

General and Technical

Modified Hand Truck a Packing Expedient....110
Here's What Can Happen When Lubricants Are Not Properly Handled at the Mill....111
"Fine Example" of Mill-Machine Builder Cooperation....115
Continuous Yarn Making....121
How to Use Ultraviolet Light....137
Well Supervised Preventive Maintenance Program Pays-Off in Weave Room (ASME Meet)....140
This Mill Truck-Trailer Has a Permanently Mounted Crane....161
Make This Stretcher to Pull Latice Aprons Tight....165
Extended Beam Lever Shaft Solves Problem in Weaving Narrow Warps on Wide Looms....166
Folding Table Holds Cloth When Inspectors Get Behind....166

Departments

Shorts and Remnants....4
Personal Notes About Men You Know....14
What the Textile Mills Are Doing....36
Suppliers' News....49
News in Brief....87
An Executive Views the News in Textiles....99
Future Events....100
How Other Men Manage....157
New Equipment Parade....183
Helpful Booklets Free....199

EDITORIAL AND EXECUTIVE OFFICES: 806 Peachtree St., N. E., Atlanta 8, Georgia

John C. Foxville, Editor

J. Frank Guest, Managing Editor
George H. Dockray, Executive Editor
Milton C. May, Associate Editor, P. O. Box 441, Kings Mountain, N. C.
Leon E. Seidel, Associate Editor, 22 East 93rd St., New York 28, N. Y.
M. M. Lyon, Assistant Editor
J. A. Moody, Production Manager

John C. Cook ....Vice-Pres. & Bus. Mgr.
Walter M. Mitchell, Jr. ....Advertising Manager

Business Representatives in U. S. A.

BOSTON—Arthur C. Shaw, 27 Southgate Rd., Wellesley 81, Mass. (Phone: Wellesley 5-3648).
NEW YORK—William K. Hoffman, 58 Euclid Ave., Maplewood, N. J. (Phone: South Orange 2-2484).
PHILADELPHIA—George Isherwood, 590 Rutherford Dr., Springfield, Pa. (Kingswood 30760).
CHICAGO — A. C. Petersen, 333 North Michigan Ave., Chicago 1, Ill. (Phone: Central 6-6964).
CLEVELAND—A. E. C. Smith, P. O. Box 3054, Cleveland 17, Ohio (Phone: Cherry 1-7352).
PITTSBURGH-BUFFALO AREA—J. D. Parsons, 39 Atlantic Ave., Cohasset, Mass. (Phone: 4-0712).
CHARLOTTE—W. Cliff Rutland, Box 102, Gastonia, N. C. (Phone: University 7-7995).
LOS ANGELES—L. B. Chappell, 810 So. Robertson Blvd., Los Angeles 35, Calif. (Crestview 4-5151).

TEXTILE INDUSTRIES is published monthly at 116 E. Crawford St., Dalton, Ga., by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A. W. J. Rooks, chairman of the board; R. P. Smith, president. Executive and Editorial Offices: 806 Peachtree St., N. E., Atlanta 8, Ga. Subscription Rates: United States and Possessions, $2.00 per year; Canada, South America, Central America, $2.00 per year; Foreign Countries, $5.00 per year. Entered as second-class matter at the post office, Dalton, Georgia, under the Act of March 3, 1879.

"Because they operate their own fleet they can get tubes to us overnight"

You don't need a warehouse for overstocks. Our own dependable carriers assure you tube delivery that fits right in with your production schedule. You'll like the *service*, you'll like the *economy* of doing business with—

Textile Paper Products, Inc.

Cedartown, Ga. / *Crossett, Ark.*

Manufacturers of better Convolute and Spiral Wound Cloth Tubes, Carpet and Rug Cores, Yarn Tubes, Cloth Winding and Baling Boards, Beaming and Carlining Paper.

Prompt delivery by our own fleet throughout the South and Southwest.

Shorts and Remnants

► If you don't like the weather right now, just remember that "March comes in like a lion and goes out like a lamb." Whoever first thought that one up? And while you are at it, who said "Mad as a March hare"? Why are rabbits madder in March than April? It used to be "Beware the Ides of March," but Uncle Sam changed the income tax deadline so now its the Ides of April.

► Speaking of the weather, we hear that Mark Twain actually didn't think up "Everyone talks about the weather but no one does anything about it." A newspaper man coined that one and old Mark just picked it up.

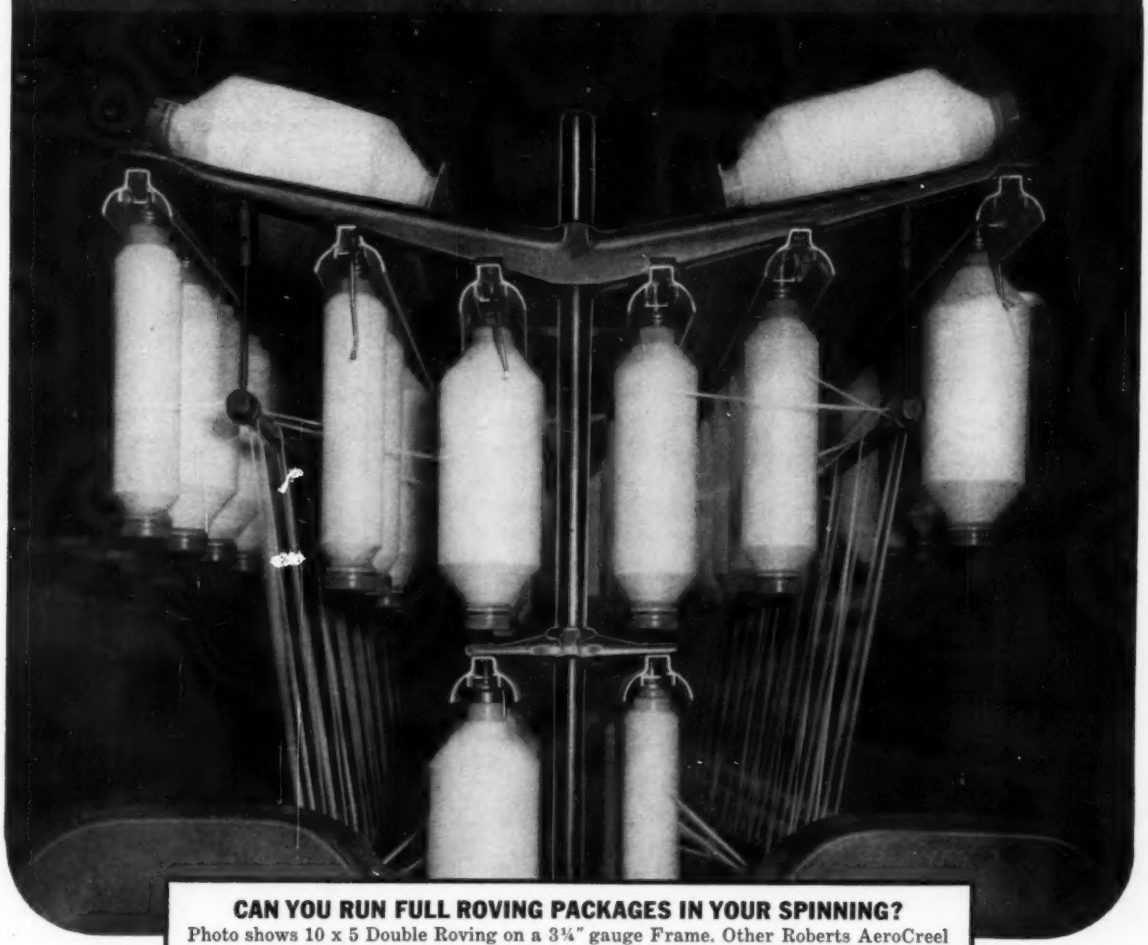
► So shall we pick up here and go on about our business. Here in TI you never can tell what folks will ask for. **G. Bagelow,** Director of G. Bagelow, Ltd., Athens, Greece, wants data on a Warner & Swasey advertisement with the data printed in French. **Chas. K. Cobb,** V.P. Canton (Ga.) Cotton Mills, sends in a yellow card from TI Nov. for further data on a Birch Bros. Inc. two-roll padder. We guess he'd settle for this in English.

► The 1955 Index in our December issue brought forth a number of letters with requests for tear sheets or reprints such as one from **De Forenede Textil Fabrikker,** Aalborg, Denmark, who wanted "Essentials for Good Napping" (July, p. 77); and from **E. F. Vonderhe,** V.P. Gloversville (N.Y.) Knitting Co., who also wanted the napping article (must be good), as well as a couple of others; and from **John J. Malley,** Plastico Div. Celanese Corp. of Amer., Newark, N. J., who wanted several extra copies on latex and resin finishing.

► Whenever we have reprints or copies for tear sheets, we are glad to furnish, so go ahead and write and ask. Sometimes though we run out of extras on something such as "Tufted Textiles." British Rayon Research Assn. wants to buy 12 copies of this. We don't have right now, but look for June 1956 on this same subject.

► It looks as if that scholarship award picture from the Southeastern AATCC started something. This is not the "scholarship award" column, but

ROBERTS AEROCREEL



CAN YOU RUN FULL ROVING PACKAGES IN YOUR SPINNING?
Photo shows 10 x 5 Double Roving on a 3¼" gauge Frame. Other Roberts AeroCreel designs available for 12 x 6 single and 10 x 5 Double on 2¾" gauge Frames and up.

- **FULLY OPEN BOBBIN HOLDER CREEL**
- **REDUCES CLEANING**
- **REDUCES CREELING TIME**
- **PERMITS FULL ROVING PACKAGES EVERYWHERE**

Drawn Aluminum Channels combine mounting for Bobbin Holder with Dust Cap (patents pending).

Rigid Creel construction due to solid steel Creel Posts, heavy cast iron Supports and extruded Channels.

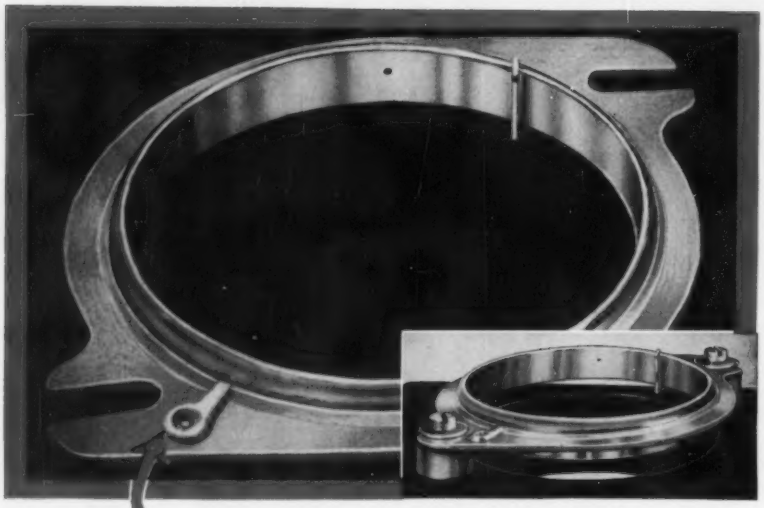
Racks supplied for laying Roving on top of Frame; or they can be removed for fully open design when Roving Trucks are used.

Smoothly formed and finished to resist lint adherence. Air flows freely over and around elements.

Roberts Company makes everything in Spinning from Floor to Creel.

1. Modernization Material for your present Spinning Frames
2. Completely modernized Roberts Model 55R, High Draft Spinning
3. All new Model 56, Roberts Spinning Frames

ROBERTS COMPANY
SANFORD, NORTH CAROLINA



OIL HERE
ONCE IN 24 HOURS

Set flush, or set above ring-rail to avoid fly loading. Either way you get a trouble-free ring that gives balanced traveler wear at highest speeds and long running.

Ragan
SELF-LUBRICATING
Rings

WON'T RUN DRY
WON'T CARBONIZE
WON'T LOAD FLY
•
HIGHER SPEEDS
SMOOTHER YARN

Fill the deep reservoir once a day . . . the filter pads feed out the oil—and these rings just won't run dry. No wicks, so nothing to carbonize.

They cost no more than the machined rings which they far outwear, even at higher speeds. Special heat-treating for wear-resistant hardness. Super-smooth finish. They perform better, longer, spinning worsted, synthetics, and mixtures; twisting cottons. Now ready in two sizes: 2¾ x 7/16 and 2¼ x 7/16. Four leading makers are delivering travelers designed for them.

RAGAN RING COMPANY

The South's own manufacturer of all styles of spinning, common and vertical twister rings.

901 S. Main Street, East Point, Georgia

•

REPRESENTATIVES: H. B. "Booch" Askew, P. O. Box 424, Griffin, Ga. • L. O. Talley, P. O. Box 1169, Mexia, Texas • William R. Fox, P. O. Box 380, Providence, R. I.

Shorts and Remnants

here are five (5) pictures received from Blackman-Uhler Company, Spartanburg, S. C., and Alliance Color & Chem. Co., Newark, N. J., division of Andover Co. Awards of $500 scholarships from Blackman-Uhler go to #1 **Victor H. Garrou,** North Carolina State; #2 **Kenneth Gary Jordan,** Clemson; #3 **Samuel Gregg Thompson,** also Clemson. Alliance awards for the same amount go to #4 **Robert Carl Schier,** Lowell Tech; #5 **Jordan Dannin,** Phila. Textile Inst. Congratulations to all. Stick to it, fellows!

Mr. Garrou

Mr. Jordan

Mr. Thompson

Mr. Schier

Mr. Dannin

► While we are on the subject, **Miss Dorothy Challis,** Brookline, Mass., writes for the 6-page tabular and pictorial description of textile schools (Apr. '55). Seems **Earl J. Watt** of Lowell Tech told her this was best way to get a picture of textile courses offered. Could be.

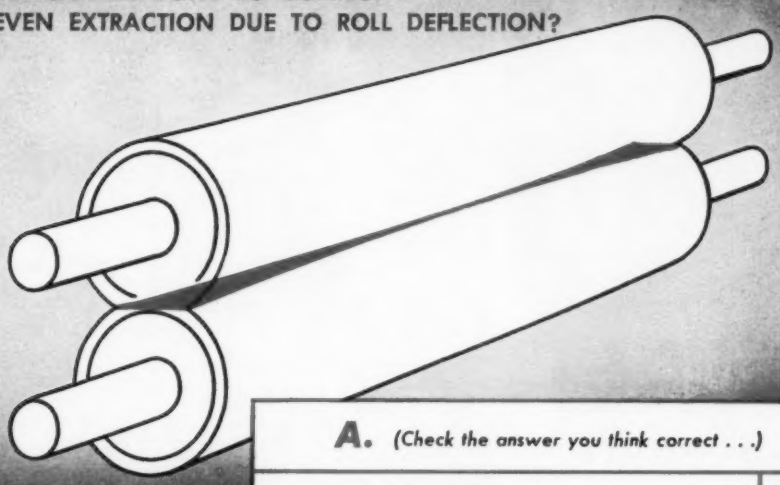
► While we are on awards, **J. Wesley Henderson** (below), Pneumafil Corporation sales engineer, comes in for a "Victor" trophy from the Charlotte (N. C.) Sales Executives Club for his outstanding record in a

Mr. Henderson

STOWE-WOODWARD Maintenance Tips

for better finishing at lower cost

Q. WHAT CAN BE DONE TO CORRECT UNEVEN EXTRACTION DUE TO ROLL DEFLECTION?



A. *(Check the answer you think correct . . .)*	
1. REDUCE PRESSURE	
2. CROWN ROLL	
3. REMAKE ROLL ON A MORE RIGID CORE	

You'll find the correct answer in these Maintenance Tips

All three answers are correct; but for varying degrees of trouble.

In many cases, pressure may be reduced to overcome deflection without impairing to any great degree the efficiency of the rolls. Of course, the ideal solution is to start with a roll core which has the rigidity necessary for the job and will not deflect under the maximum pressure required for its service.

In some cases where additional pressure is added to squeeze rolls, the effects of deflection may be overcome by crowning the rolls. However, this is a rather complicated procedure since the crown must be very carefully determined so as to exactly compensate for the deflection of the roll.

Your Stowe-Woodward sales engineer can advise you of the proper remedy for your particular operation. Call on him when you need help.

"RUBBER ROLLS with a REPUTATION"

S-W INC.

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN • NEWTON 64, MASS. • GRIFFIN, GEORGIA

How to select the right liquid meters

. . . to save time and ingredients, with closer quality control, and more accurate cost accounting. That's the subject of this helpful free bulletin. It covers meters for measuring hot and cold water, oils, syrups, brines, soap solutions, and many other chemical solutions that can be handled by composition bronze meters. Illustrates sizes from ⅝" to 6", with rates of flow to 1000 gpm. Registers range from simple counters to the newest Auto-Stop automatic batching meters. A gold mine of information for any processing engineer. Bulletin 566UTI.

Acetate, Amyl
Acetate, Butyl
Acetate, Ethyl
Acetate, Lead
Acetone
Alcohol, Amyl
Alcohol, Ethyl
Alcohol, Methyl
Ammonium Nitrate Solution
Ammonium Sulfate Solution
Asphalt, Liquid
Banana Oil
Barium Chloride
Benzol
Boiled Oil
Borax Solution
Brine
Bronzing Liquid
Bunker "C"
Butanol
Calcium Chloride Brine
Carbon Bisulphide
Carbon Tetrachloride
Castor Oil
Cellulose Solvent
China Wood Oil
Chloropicrin
Chocolate
Cleaner, Asphalt Tile
Cocoa Butter
Coconut Oil
Code Rubber Oil
Coffee
Condensate
Corn Molasses
Corn Syrup
Cotton Seed Oil
Crude Oil
DDT
Dextrine Solution
Diacetone
Dibutyl Phthalate
Diethyl Carbitol
Diethylene Glycol
Diethyl Hexyl Phthalate
Dimethyl Phthalate
Dioctyl Phthalate
Dope (Nitrocellulose)
Esther Gum Oil, Drying
Ethyl Cellosolve
Ethylene Glycol
Fish Oil
Formaldehyde
Freon
Fuel Oil, Hot
Glucose
Glue, Water Solution
Glycerine
Grease
Ink, Oil Vehicle
Ink, Water Vehicle
Isobutylene
Isopropanol (Isopropyl Alcohol)
Kerosene
Lacquer
Lime Water
Linseed Oil
Liquid Soap
Liquid Sugar
Lubricating Oil, Hot
Lubricating Oil
Mesityl Oxide
Methylated Spirits
Methyl Bromide
Methyl Cellosolve
Methyl Formate
Methyline Chloride
Mineral Oil
Mineral Spirits
Molasses
Monochlorbenzoil
Naphtha
Nitrocellulose Lacquer
Oleic Acid
Oleum Spirits
Orthodichloro Benzine
Paint
Paraffin Oil
Paste
Perfume
Petrolatum
Pine Oil
Plasticizer
Polymer, Molten
Potassium Carbonate
Propylene Glycol
Pyrethrum Mixtures
Rum
Shellac, Alcohol Sol.
Silicone Oil
Silicon Tetrachloride
Size Solution
Soap Solution
Sodium Benzoate
Sodium Carbonate
Sodium Chloride
Sodium Silicate
Soy Bean Oil
Starch Solution
Stearic Acid
Stoddard Solvent
Styrene Monomer
Sugar Syrups
Tallow
Tannic Acid
Tire Compound
Trichlorethylene
Tricresyl Phosphate
Tungwood Oil
Turpentine
Varnish
Varsol
Vinyl Lacquer
Water
Wax Emulsions
Whiskey
Wine
Xylol

148 INDUSTRIAL LIQUIDS ARE LISTED . . . How many of these can you handle better with Neptune Meters?

Get started now! Write or phone nearest Neptune office, or check off the Reader Service Card in this publication.

NEPTUNE METER COMPANY
19 West 50th Street, New York 20, N. Y.

Branches in:
ATLANTA • BOSTON • CHICAGO • DALLAS • DENVER
NO. KANSAS CITY, MO. • LOS ANGELES • LOUISVILLE
PORTLAND, ORE. • SAN FRANCISCO

In Canada: **NEPTUNE METERS LTD., TORONTO 14, ONTARIO**

neptune liquid METERS

Shorts and Remnants

recent Pneumastop sales contest.

► **Thornton C. Race,** Revonah Spinning Mills (Phila. office), writes for TI pictures used in an article on splicing tufted yarns (June '55). **H. E. Shugars,** Barber-Colman Co., Rockford, Ill., also wants TI photos and art work on "System Puts Out Opener Room Fires Automatically" (Aug. '55) for use with condensation of article in a house organ.

► We went out on a limb in Jan. in this here column offering (when we have them) copies to fill in bound volumes. **Joseph V. Kopycinski,** librarian, Lowell Tech, wrote for 59 missing copies for volumes dating back over 20 years. We could not fill in on 39 of the 59 requested. Anybody with old files of TI or COTTON in the attic will do a good turn by offering to fill in at Lowell Tech., Lowell, Mass.

► We are right up to snuff, however, in our Research Dept. Looking through our files for some up to date photos of motor trucks for textiles, we ran into the photograph below labeled "Modern White truck used at Arlington Mills to transport stock in process." Somebody ought to clean

out that file. Maybe we will someday when we are not busy.

► Speaking of trucks and materials handling, this brings up a letter from a good friend who wonders if we have "never considered the tremendous economic and social significance of magnesium dock boards."

Seems a lot of folks like Du Pont, Burlington, Kendall, Celanese, Pacific, J. P. Stevens, Bemis Bag, Cone, West Point, Johnson & Johnson, etc., use "Magcoa" dock boards; so we should run a nine-page article on same. Could be we should. How are your dock boards or ramps today? Do you have low dock, high truck troubles as pictured on next page? (Our friend has seven children. If you have seven children, let us know what we can help you sell. Seven kids

their wrinkle resistance is the same with

RHONITE R-1

Ever see such look-alike dresses? But that's RHONITE R-1 for you . . . cottons, rayons, and blends wink at wrinkles with equal abandon whether it's the first wearing or last. One's a washer veteran, yet both dresses put on their partygoing look with the same quick swipe of an iron. Why are RHONITE R-1 finishes so durable? Perhaps because RHONITE R-1 is a modified urea formaldehyde, a monomeric product of such small molecular size that it penetrates and reacts inside the fibers.

RHONITE is a trade-mark, Reg. U.S. Pat. Off. and in principal foreign countries.

Chemicals for Industry

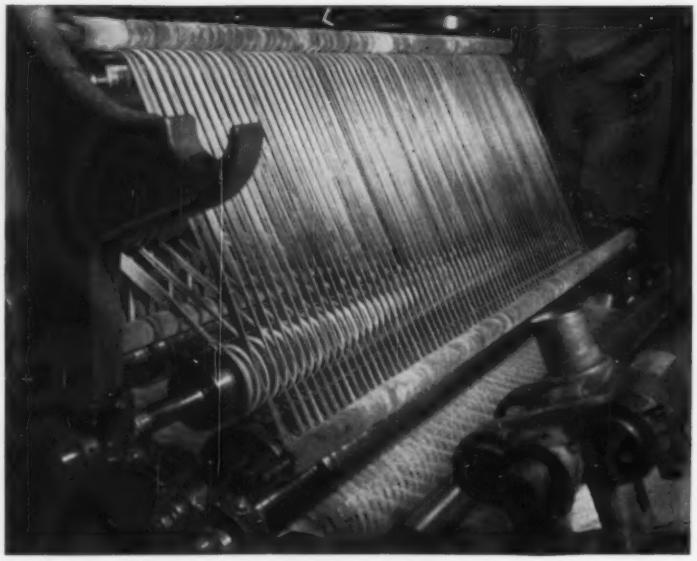
ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

Booth

SUPR-O-TAPE



THE FIRST AND ONLY SUCCESSFUL FABRIC TAPE FOR CONDENSERS

Two years of actual mill use testifies to these amazing facts:

- Longer Life
- Extra Strength
- Increase Production
- Improve Quality
- Surface Won't Crack
- No Oiling Needed
- Yarn Uniformity Improved
- No Stretch—Less Sag
- Keep Square Edges
- Retain Full Width
- No Breaking In
- Permit Wider Range of Counts
- Fewer Ends Down
- Easily Cleaned
- Endless or Continuous
- Belt Hooks Hold
- Not Affected by Emulsions

STRIP-O-MATIC CARD CLOTHING *IN TWO TYPES*
CONVENTIONAL CARD CLOTHING
QUALITY AND SERVICE FOR 65 YEARS

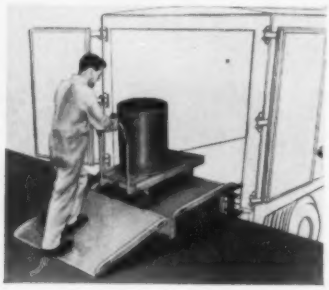
BENJAMIN BOOTH COMPANY

ALLEGHENY & JANNEY STS., PHILA., PA.

Booth

Shorts and Remnants

make him a good textile customer.) The guy pictured looks strong enough



to pick up that lil' ole drum and put it onto the truck. Well, ole S&R'll tell you what to do. Just write Magnesium Co. of Amer., East Chicago, Ind., on your dock board and ramp troubles.

On the Knitting Front

Gilbert Rubinstein, Prod. Mgr. Puritan Sportswear, Altoona, Pa., sends an inquiry (yellow card) for more information on an article on dyeing Acrilan sweater fabrics. We didn't carry the article but certainly saw that the inquiry got to right people. If you don't see what you want, ask for it.

R. W. Hughes, Acme Hosiery Mills, Inc., Asheboro, N. C., notes a picture July '54 p. 111 showing a special floor matting in a seamless mill and wants more data on said material. Seems flooring is a problem in knitting mills.

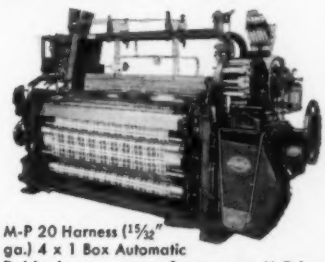
C. H. Whittle, V. P. United Hosiery Mills Corp., Chattanooga, Tenn., wants additional information on dye dispersion pipe and stainless unit (Jan. '56 p. 109). That was J. A. Gosselin Co. Ltd., Canada, and we don't know their address; but we wrote their sales agents, Ross Whitehead & Co. Ltd., in Montreal.

C. G. Correll, Gen. Mgr. Lamb Knitting Co., Colon, Mich., wants information in regard to what blends and fibers are most in demand for 1956 men's sweaters. . . . also advice on handling Hi-Bulk Orlon as fine as 1/25. We know what we like in women's sweaters, but men's sweaters is another matter. Seriously, how do you folks in the knitting field like the new Knitting Section? We hope you read it and "you asked for it" (some of you did anyway). And don't miss

You can "turn on a dime"... any time!... and SCORE... when you're backed up by C&K's New M-P Line

You're always a tough and ready competitor, when your weaveroom has the **Most Protection** you can give it . . . and that means these all-new **Multi-Purpose Looms**. Every loom in this line is built on the same basic frame, and can be converted overnight to practically *any* fabric construction or color combination dictated by fashion . . . *from plain to fancy or back again.*

In addition, the **M-P** line makes other important contributions to **Mill Profits** . . . better fabric quality . . . increased work assignments . . . increased production (speed x efficiency) . . . and lower maintenance. See C & K today.



M-P 20 Harness (15/32" ga.) 4 x 1 Box Automatic Dobby Loom . . . one of many new M-P Looms . . . *all built on the same basic frame*

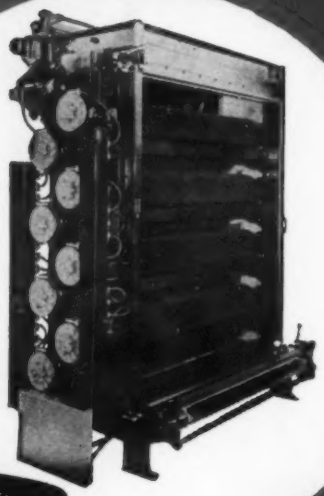
This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.

CROMPTON & KNOWLES *Loom works*

WORCESTER 1, MASSACHUSETTS, U.S.A.

CHARLOTTE, N. C. • PHILADELPHIA, PA. • ALLENTOWN, PA.
Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.
Crompton & Knowles of Canada Limited, Montreal, Quebec

METLKOR® BRUSHES PREFERRED



NEW HERMAS MOTORIZED BRUSH

"Most of our customers prefer METLKOR BRUSHES," states the Hermas Machine Co., well-known manufacturer of clothroom equipment, "because:

"—The cores never warp or get out of alignment . . .

"—Bristles don't fall out . . .

"—Rolls are balanced to prevent whipping.

"—All of which is conductive to long brush life and even brushing."

Hermas uses METLKORS in this new motorized brushing machine, as they have in other Hermas brushes, because of their superior performance.

The metal cores, of aluminum, cold drawn steel, stainless steel, copper, or bronze, cannot sag, split, or get out of alignment.

Bristle is wound on the cores by our patented refillable process, firmly held with flat metal wire, and sealed with special baked plastic cement.

® Reg. U. S. Pat. Off.

M. W. JENKINS' SONS, INC.

Over Three-Quarters Century of Pioneering Brushes for Industry.

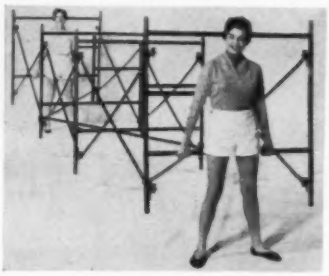
Cedar Grove, Essex County, New Jersey

TELEPHONE Verona 8-5327

Shorts and Remnants

the April special on Knitting—next month; look for it.

► Speaking of knitting, here's our sweater girl for March, and Waco



Mfg. Co., Minneapolis, Minn., says these two girls are carrying 21 ft of scaffolding capable of supporting a 4200-lb load. How is your scaffolding today? Beware, though, the gals may be professional weight lifters in disguise.

Machine Interference Tables

"Sometime ago I clipped . . . an article regarding machine interference [Aug. '53] . . . I am interested in these tables and would like to know if tear sheets are available. . ."

W. T. MUNDY, JR.
The McCormick Spinning Mill, Inc.
McCormick, S. C.

Wants Text Books on Linen

". . . I would appreciate the names of any publishers that may have text books on grading, classification, and general manufacturing of linen. . . ."

HARRY G. CLARKE
Putnam, Conn.

End-to-End Testing Interesting

". . . We found your article 'Reduce Bad Yarn by End to End Testing' most interesting. . . ."

H. PETER PEARSON
Gen. Mgr.
Strong, Hewat & Co., Inc.
North Adams, Mass.

Muff Dyeing

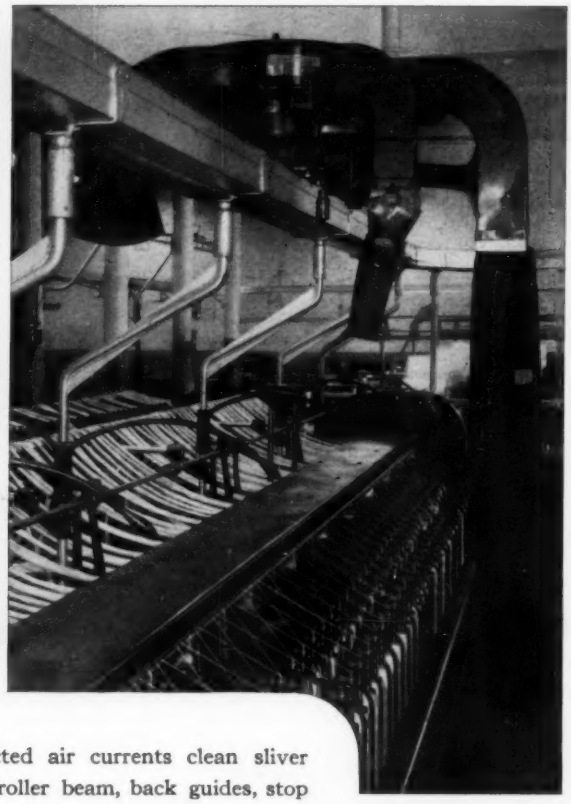
" . . . We read this article [Muff Dyeing Stretch Nylon, Jan. '56] with a great deal of interest and wonder if you might answer the following questions or advise us who we might write to obtain these answers. . . . "

J. W. TURNER
Gen. Overseer Planning
J. P. Stevens & Co., Inc.
Great Falls, S. C.

► Inquiry sent to the author.

We'll be seeing you next month.

and NOW the *Roving Frame Cleaner!*



Controlled, individually directed air currents clean sliver creel, roll covers, roll stands, roller beam, back guides, stop mechanism, flyers including presser fingers, traversing carriage and underframe.

Room Cleaner may be attached to Frame Cleaner for cleaning ceiling and other overhead surfaces.

401

During doffing and creeling periods air currents are automatically reduced or deflected.

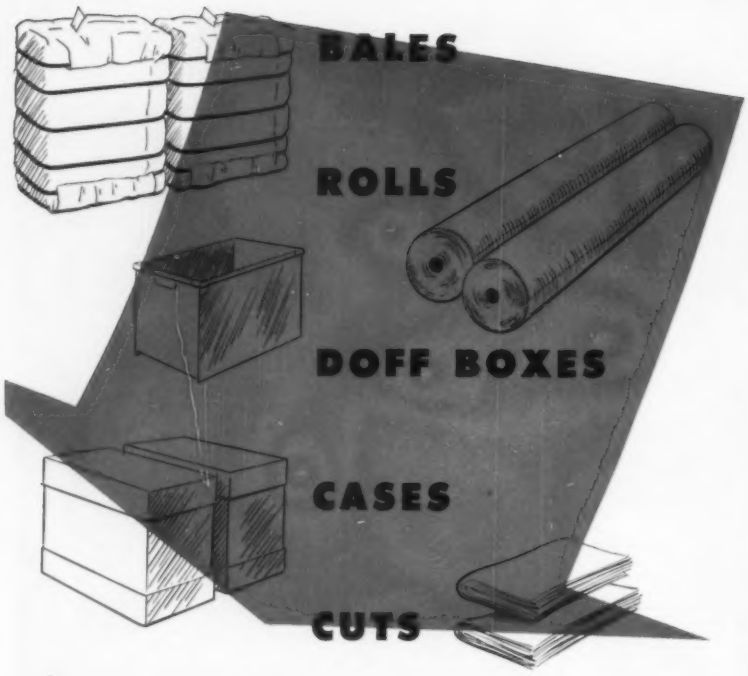
Cleaner greatly lessens flyer chokeups and other lint troubles. Operatives can tend more frames. Production is increased. Quality of roving is improved.

Parks-Cramer Company

Humidifying and Air Conditioning Since 1904
Traveling Cleaner Systems Since 1926

FITCHBURG, MASS. • CHARLOTTE, N.C. • ATLANTA, GA.

In mills that are "going places"...



go on ALVEY conveyors

The list of mills using ALVEY-Engineered Conveyor Systems reads like a "Who's Who" of the textile industry. And, the names that will be famous are the ones that are installing ALVEY equipment today.

Let a textile-experienced ALVEY engineer show you the modern way to plan your progress... through greater yield with lower overhead... on ALVEY conveyors.

Every time you MANhandle a product, you add to its cost... *without* increasing the value.

So, for profit's sake... ***convey*** your products.

ALVEY

ALVEY CONVEYOR MANUFACTURING COMPANY
9306 Olive Street Road • St. Louis 24, Missouri
Branch Offices in Principal Cities

234

Personal NOTES

ABOUT MEN YOU KNOW

Succeeding **L. D. Dawes** as treasurer of Munsingwear, Inc., is **C. M. Aldrich, Jr.,** who has been with the sales and merchandise division for eight years. Mr. Dawes continues as secretary and vice-president in charge of operations.

Raymond A. All, who has been manager of marketing research and analysis for the textile division of

Mr. All

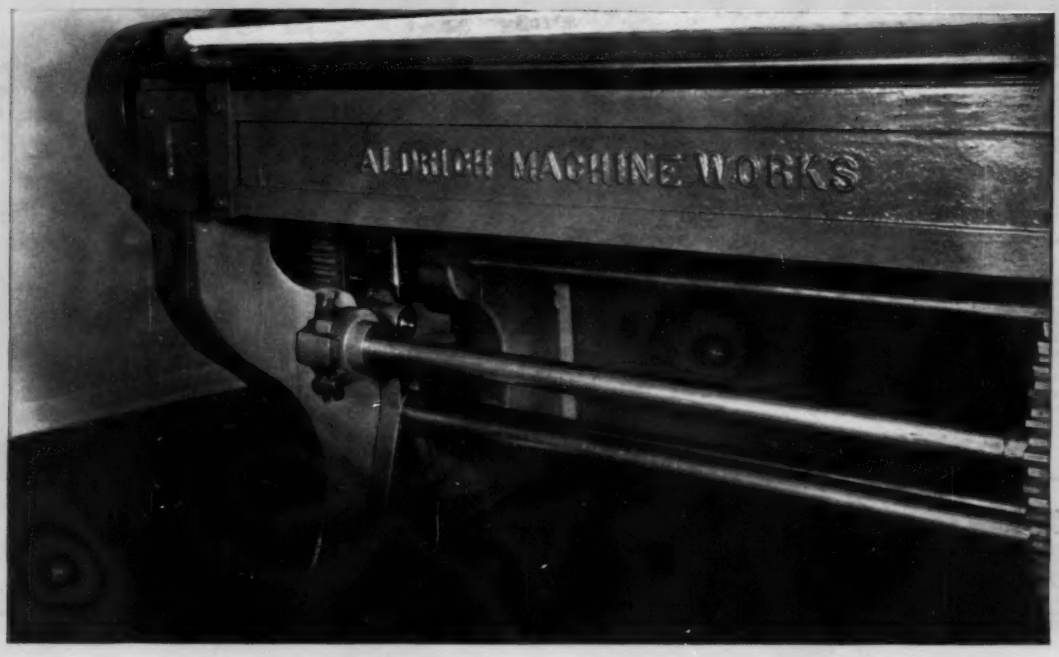
United States Rubber Co. since 1953, was recently appointed assistant to William E. Clark, vice-president and general manager of the division.

New vice-presidents of the American Association of Textile Chemists and Colorists for 1956 are **Ernest R. Kaswell** of Fabric Research Laboratories, from the New England Region; and **Frederick V. Traut** of Globe Dye Works Co., from the Central Atlantic Region.

Personnel changes recently made by **Burlington Mills** include the assignment of **Oscar L. Davis, Jr.,** as overseer of weaving at the Newton (N. C.) Rayon Plant; and the transfer of **George K. Harbinson** and **C. O. Thornburg** from Newton to Mooresville (N. C.) Mills. Mr. Harbinson is now assistant to the department head of production planning, and Mr. Thornburg is supervisor in the weaving department. * * * Replacing **Robert Greene** as superintendent of Burlington Industries' Newton (N. C.) Rayon Plant is **Brady Holland,** formerly at the Greensboro headquarters. Mr. Greene has been transferred to Greensboro to join the manufacturing staff of the spun weaving division. * * * The waste sales department of Burlington Industries is now headed by **Frank L. Asbury,** who has been with the company in an executive capacity since 1948. His depart-

Need New Pickers?

. . . then, think of what you get in ALDRICH PICKERS!



As long as there have been pickers, there has been trouble with the shoes that hold the calender rack gears in mesh with their spur gears on the cross-shaft.

These shoes are not on the Aldrich calender. The roller, pictured above, running on an Oilite bushing and attached to a mounting pivoted on a stationary shaft in the calender, holds the calender rack gear exactly in place without any possibility of binding or jamming.

Furthermore, to make sure that the cross-shaft can't stick in a dry bearing, this shaft is mounted on ball bearings, which are permanently lubricated.

This is one of the many improvements in the Aldrich picker which eliminate trouble and help to make better laps.

AldricH MachinE WorkS
Greenwood, South Carolina

Norgren the most complete line of AIR LINE FILTERS

... to remove oil, corrosive moisture, abrasive pipe scale, rust, and other solids from compressed air...

... to reduce corrosion, wear, upkeep costs of air equipment

85 MODELS-7 PIPE SIZES-3 TYPES OF FILTER ELEMENTS-3 TYPES OF BOWLS

AUTOMATIC-DRAIN FILTER
¼", ⅜", ½", ¾", 1". For pressures up to 150 psi.; temperatures up to 120° F. Filter elements: 74–, 64–, or 25-micron. Replaceable, transparent bowl. Series 11,200.

NEW REPLACEABLE METAL BOWL FILTER
¼", ⅜". For pressures up to 250 psi. and temperatures to 300° F. Replaceable metal bowl. Filter elements: 74–, 64–, or 25-micron. Series 12,200N.

TRANSPARENT BOWL FILTER
For pressures up to 150 psi. ¼", ⅜", ½", ¾", 1". Replaceable transparent bowl in two sizes. 74–, 64–, or 25-micron filter elements. For temperatures up to 120° F. Series 22B.

PERMANENT METAL BOWL FILTER
Permanent, metal bowl. ¼", 1", 1¼", 1½". 74-micron filter. For pressures up to 250 psi.; temperatures up to 300° F. Models 558, 560, 561, 562.

REPLACEABLE METAL BOWL FILTER
For pressures up to 250 psi. ¼", ⅜", ½". Replaceable, metal bowl. Filter elements: 74–, 64–, or 25-micron. For temperatures up to 300° F. Series 22N.

NEW METAL BOWL FILTER
¼", ⅜". Low cost replaceable metal bowl filters for use where removal of solids is of primary importance. Filter elements: 74–, 64–, or 25-micron. Series 30AD.

SMALL BOWL FILTER
¼", ⅜". For pressures up to 150 psi., temperatures up to 120° F. Replaceable, transparent bowl. 74–, 64–, or 25-micron filter element. Series 12,200.

AIR PURIFIER
For exceptionally thorough removal of moisture at low rates of air flow. 74-micron Wire Screen and Yarn filter elements. Replaceable, transparent or metal bowls. ¼". Series 21B and 21N.

SMALL, METAL BOWL FILTER
For pressures up to 250 psi. ¼", ⅜". 74-micron filter. Permanent bowl. For temperatures up to 300° F. Series 0-552 and 0-554.

FILTER-REGULATOR UNIT
Automatically filters air and regulates air pressure. Filter bowl is replaceable—transparent bowl for pressures up to 150 psi. and metal bowl for pressures up to 250 psi. 74–, 64–, or 25-micron filter element. ¼", ⅜". Series 5A and 5N.

Norgren C.A. CO.
3450 So. Elati St., Englewood, Colo.

Without obligation, learn how Norgren Air Line Filters can reduce costs in your plant. Call your nearby Norgren Representative listed in your telephone directory—

or WRITE THE FACTORY FOR NEW No. 700 CATALOG.

Wherever Air is Used in Industry

Personal NOTES ABOUT MEN YOU KNOW

ment, with headquarters at Greensboro, N. C., handles yarn and fiber waste for all of Burlington's plants except Ely & Walker, Peerless Woolen, and the woolen and worsted operations of Pacific Mills.

Resignations effective Jan. 1, 1956, at Sidney Blumenthal & Co., Inc., included **J. E. Taylor,** vice-president in charge of manufacturing, and **Ned Feldman,** vice-president for administration. Their duties have been assumed by other members of the organization.

Vice-presidents of Cashmere Corporation of America, who have recently

Mr. Adler

Mr. Frisk

been elected to the board of directors, are **Alfred Frisk** and **Wallace Adler.**

Following the promotion of **A. T. Gleen** to staff finishing specialist for Chadbourn Gotham, Inc., **Dwight L. Copenhaver** was appointed to replace him as manager of the company's Charlotte, N. C., finishing plant.

Recently appointed field development technicians in the dyeing and finishing division of Chemstrand Corporation's research and development department are **Herbert F. Mahoney, Gerard O'Mahony, William C. Privette,** and **Walter Stump.**

Hugh M. Comer, chairman of the board of directors of Avondale Mills, was chosen for the "Man of the Year" award at Birmingham, Ala.

Personnel appointments to replace Cone Mills Corp. employees who have retired recently include: **Charles P. Shepherd,** assistant overseer of the Proximity power plant; **Ezra Lashley,** assistant overseer of the beaming room at White Oak; **Marvin Apple,** assistant overseer of carding at Revolution, all at Greensboro, N. C. **Clarence F. Moss** is overseer of carding at Salisbury, and **Loy A. Wortman** is overseer of supply rooms at the

SONOCO 3°30′ CONES

for winding synthetics...

light WEIGHT

medium WEIGHT

heavy WEIGHT

Made to fit the yarn in three construction weights—light, medium, and heavy weight for constrictive yarns and extra large packages!

This cone was especially developed for winding rayon, nylon and other filament yarns for knitting or creeling. It is available plain or with the SONOCO Velvet or Unitex Surface. Three lengths—6″, 6¾″ and 7″. Available in some solid colors. Colored lacquer tips and printed bands can be specified. Can be notched, scored, perforated or treated. Consult your SONOCO sales-engineer or write us direct.

sonoco — SERVES THE WORLD — PAPER CARRIERS

REG. U.S. PAT. OFF.

SONOCO PRODUCTS COMPANY

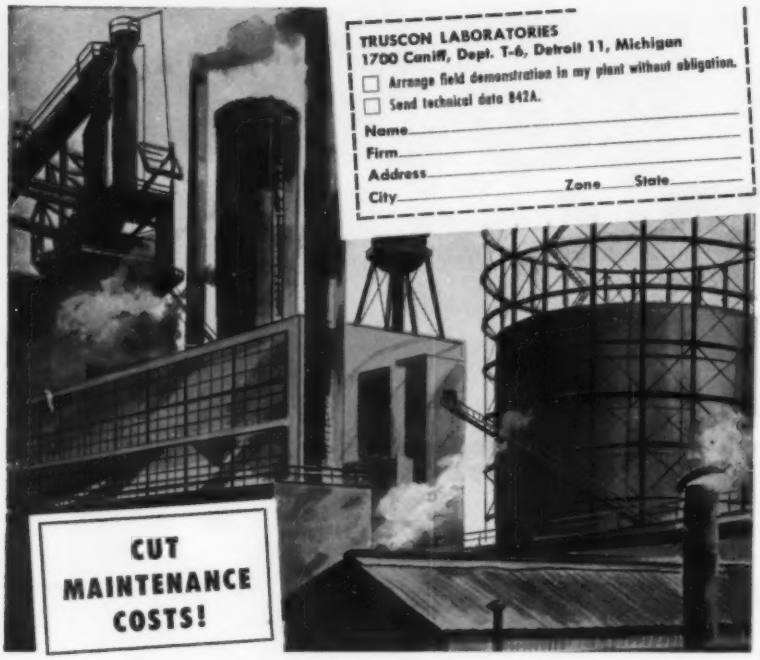
MAIN OFFICE — HARTSVILLE, S. C.

MYSTIC, CONN. • AKRON, IND. • LOWELL, MASS. • PHILLIPSBURG, N. J.

LONGVIEW, TEXAS • PHILADELPHIA, PA. • LOS ANGELES, CAL.

GRANBY, QUEBEC • BRANTFORD, ONT. • MEXICO, D. F.

DEPENDABLE SOURCE OF SUPPLY



TRUSCON LABORATORIES
1700 Caniff, Dept. T-6, Detroit 11, Michigan
☐ Arrange field demonstration in my plant without obligation.
☐ Send technical data 842A.
Name
Firm
Address
City Zone State

ASSURE PROTECTION OF ALL SURFACES IN YOUR PLANT AREA!
USE FIELD DEMONSTRATIONS!

BUILD UP MAINTENANCE SAVINGS BY CONTROLLING CORROSION OF IRON AND STEEL AND MASONRY DETERIORATION WITH PROPER PAINT COATINGS!

"On the Spot" demonstrations can insure selection of materials best suited to withstand the chemical or other destructive conditions that can prevail in various parts of *your* plant.

With no obligation to you, Truscon Specialists will assist you in selecting coatings and methods of application, each with a record of economy proven by performance. Get proof under *your* exposure conditions by an actual field test.

Truscon Laboratories, specialists in industrial and building maintenance, have been helping to solve waterproofing, floor and painting problems for nearly 50 years and are internationally famous in the field. Act now! Use the handy coupon above. Take advantage of this important service.

TRUSCON *Laboratories*
Division of Devoe & Raynolds Co., Inc., Detroit 11, Michigan

Personal NOTES ABOUT MEN YOU KNOW

Cliffside (N. C.) Division. At Greenville, S. C., **John W. Lipscomb** is sales manager of the waste, salvage, and machinery sales department, assisted by **Leon Stone;** and **Woodrow W. Fowler** is superintendent of the American Spinning Plant.

As the result of recent administrative personnel changes at Cooper's Inc., Kenosha, Wis., **Robert F. Cooper** is now vice-president in charge of procurement, production planning, and special assignments. **H. L. Frederickson,** formerly works manager, is now vice-president in charge of manufacturing; and **J. H. Wyss** is vice-president in charge of sales and advertising.

C. W. Rowland has been appointed plant superintendent in charge of yarn manufacturing at Durham (N. C.) Spinning Mills to replace **Paul A. Whetstone** who recently joined the nylon division of Allied Chemical & Dye Corp. Replacing **J. T. Campbell** as general overseer of carding and spinning in the spun nylon and cotton yarn departments at Durham is **Paul L. Swink.** Following the retirement of **H. R. Higgins, Olif Paschall** became general overseer of the spun Orlon yarn department and the testing laboratory.

Gideon A. Frankil has resumed active direction of Union Knitting Mills, following the death of his father, who was president and founder. His interest in Somerset Knitting Mills was purchased by **Al Krafsow,** and **David Rubin** was elected president.

Recently elected to the board of directors of the Greater Charlotte (N. C.) Textile Club were **James D. Barbee,** manager of the Cramerton Division of Burlington Industries; **L. A. Savage** of Kendall Cotton Mills; and **Thomas N. Ingram** of American Cotton Manufacturers Institute.

Recent executive changes at Greenwood (S. C.) Mills included the election of **J. B. Harris, Jr.,** and **Joe F. Chalmers** as vice-presidents. **Cecil O. Browning** was named assistant vice-president. **Horace Brinson,** company secretary, was elected to the board of directors.

(Continued on page 24)

MAKE USE OF YOUR AIR-RIGHTS

Gaylord Boxes

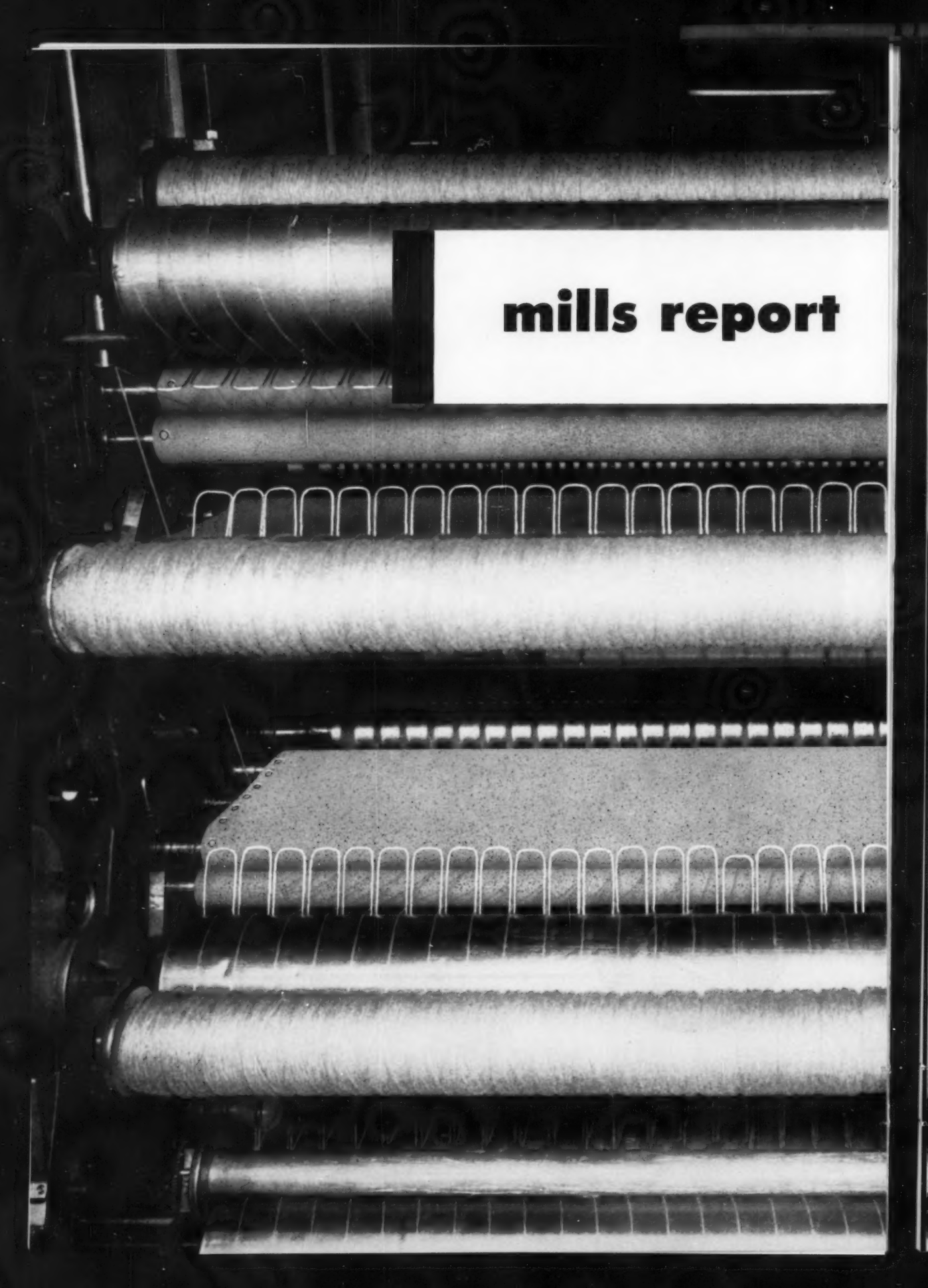
Open space under your warehouse roof may be clear profit... if you can utilize it by stacking boxes taller. But, before you do, be sure your boxes will stand straight and strong under the increased load. Gaylord containers have this valuable "stack-ability" because they are precision built of the finest quality materials.

For information on containers to help you make full use of all your storage space, call your nearby Gaylord office.

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION ★ ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION



mills report

yarn uniformity improves

with DAYCO Rub Aprons

Surest way to improve uniformity *overnight* is to equip every card you have with revolutionary, new, improved Dayco Rub Aprons—today!

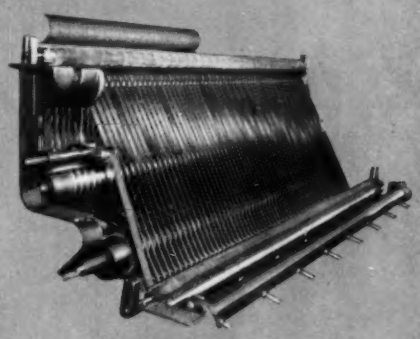
Greater uniformity has been reported by mills using Daycos, plus really substantial savings in time and money through reduced downtime and maintenance.

Tremendously improved uniformity results from Daycos' higher coefficient of friction and the ability of the two layer, reinforced, rubber-impregnated fabric to reduce eccentric motion up to 33%. In addition, the new, improved surface of the Dayco Aprons never becomes glazed, thus assuring proper density to the yarn.

You'll get better traction, better tracking and improved non-slip drive by virtue of the perfectly concentric construction that makes them hug the roll tightly at all times. Stronger ends grip buttons tenaciously for long, efficient, trouble-free service.

Unaffected by emulsion oils, easily-installed Dayco Aprons do not "grow".

Dayco Aprons generate less static and are not affected by temperature or humidity. For complete details on the new Dayco Rub Apron contact your Dayton representative or write Dayton Rubber Co., Textile Division, 401 National Bank Bldg., Greenville, S. C.



Dayco Endless Condenser Tape

Features offering additional savings . . . greater card efficiency:

- No stretch—little need for take-ups
- Less tendency to twist or turn over
- Easy to clean—require less attention
- Unaffected by oil or static
- Will not crack, economical, efficient

© D. R. 1956

Dayton Rubber 51 YEARS OF PROGRESS

Dayco and Dayton Thorobred Textile products for Better Spinning and Weaving

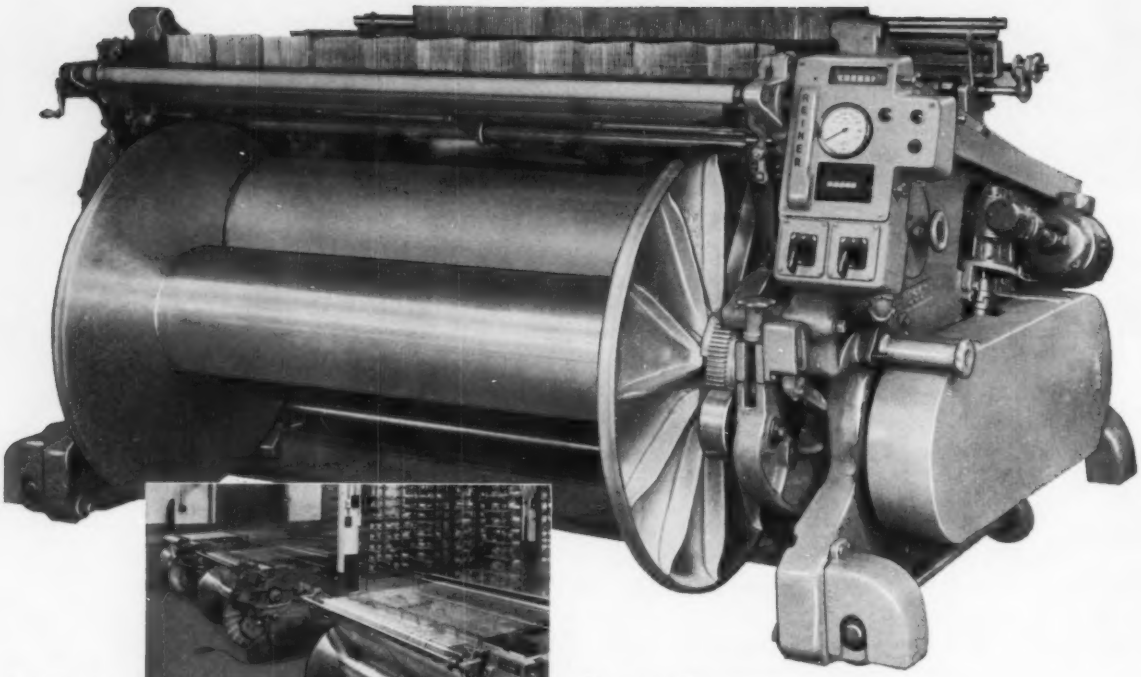


Photo Courtesy Woodside Mills Simpsonville, S. C.

for dependable, trouble-free service –

REINER *Heavy Duty* BEAMING MACHINE

Designed in cooperation with the trade, it supplements the widely used line of high speed REINER WARPERS and the most up-to-date creels for all needs. Model HD is the result of our experience in building preparatory equipment, and of our continuous and close contacts with progressive mill men throughout the industry. A richly illustrated catalog is yours for the asking.

SOME FEATURES OF THE MODEL HD

Spindle drive—Flange diameters up to 36"—Length of beam to customers specifications —Suitable for dye beams—Speed range from 100 to 900 yards per minute through rheostat control.—Independent adjustment for inching and starting speed, provision for foot-operated inching switch—Rheostat geared to presser roller to maintain pre-set constant yarn speed—Traverse motion—Electric beam doffing device.—Stop motions—Lateral motions to move unit easily from creel to creel—Comb oscillating movement—Double acting brakes on all rotating units for quick synchronized stop—Centralized control panel—Typical Reiner type heavy frame constructions—Lower overall working height of machine —Comb arrangement permits easy access for operator—7½ H.P. direct current motor with generator.

THE REINER LINE

Tricot Machines (2- and 3-bar, 84" and 168") —Simplex (Double Knit) Machines — Raschel Machines — Magazine Creels — Single Typo Creels—Truck Creels—75 Gauge (4 section) Full-Fashioned Hosiery Machines—Full Fashioned Sweater Machines—Automatic Schiffli Embroidery Machines (10 and 15 yards)—Multihead Automatic Embroidery Machines—Bobbin Winding Machines (for Stitching or Quilting)—Famatex Tenters—Rabo Pleating Machines—Schaffhouse Flat Power Machines—Gauged Doubling, Measuring and Rolling Machines—Ready Spare Parts Service for all Reiner Machines.

YOU DO WELL TO STAY AHEAD WITH REINER

ROBERT REINER INCORPORATED

10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903 — 550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY

Two important names in the Textile Industry . . .

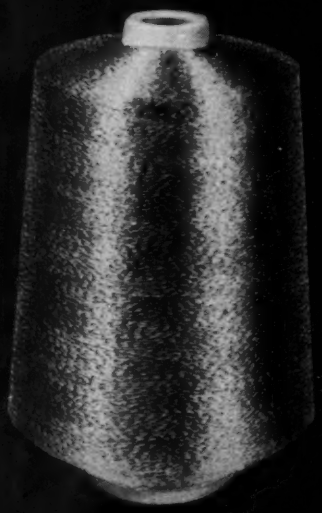
BRANSON and LASSITER . . .

unite to bring you

NEW, GLITTERING

FAIRTEX®

Metallic Yarns
Supported Metallic Yarns
Mylar® Metallic Yarns



Whether you weave, knit or crochet . . . whether you work in cotton, wool, silk, linen or the synthetics . . . give your fabrics greater eye-appeal and buy-appeal with new, glittering FAIRTEX Yarns.

These new FAIRTEX Yarns are backed by many years of experience and fifteen months of research and development. To Branson Company's comprehensive knowledge of weaving and knitting has been added Lassiter Corporation's notable proficiency in the plastics field.

FAIRTEX Metallics are non-tarnishing, highly color-fast and heat-resistant . . . they may be fabricated with ease on practically any type of machine.

FAIRTEX Metallic, Supported Metallic and the new Mylar® Metallic Yarns are available now in a wide-range of sparkling colors to meet the designers' every requirement.

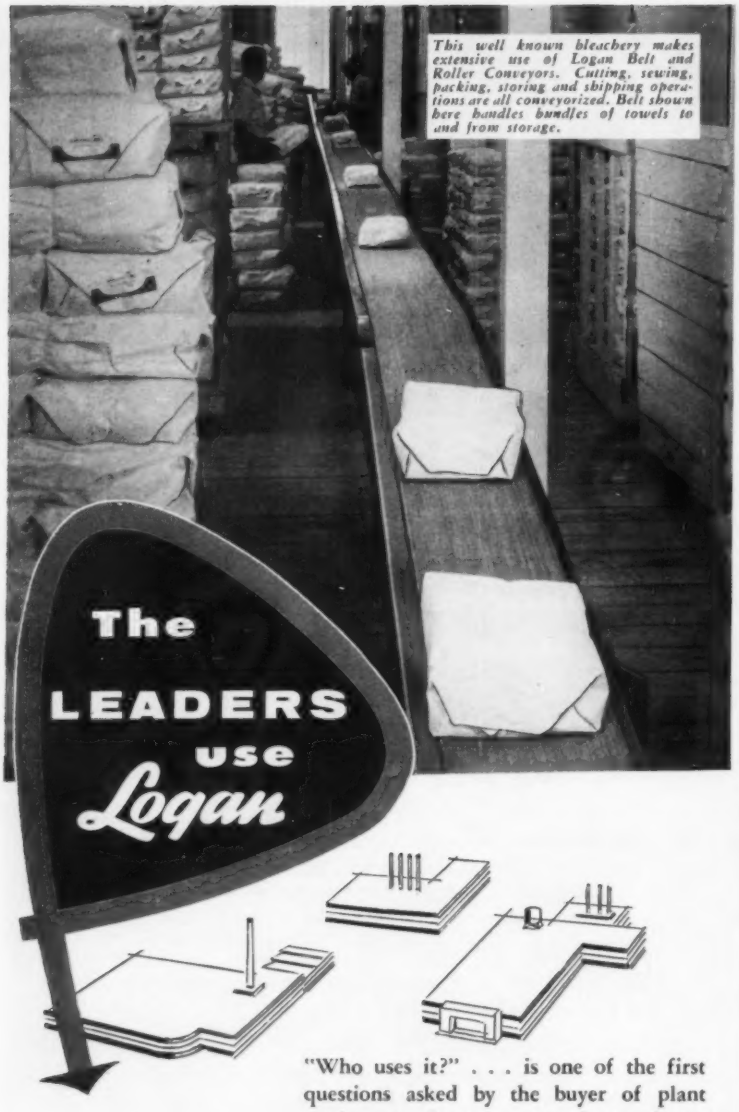
®Registered Trademark for Dupont's Polyester Film.

FAIRTEX® YARNS

METALLIC • SUPPORTED METALLIC • MYLAR® METALLIC

Fairtex Corporation • Charlotte, N. C.

CHICAGO	CHARLOTTE	NEW YORK
Napier & Harshman	Lanier Branson, Jr. and J. E. MacDougall, Jr.	Robert Napier
3555 Peterson Ave.	1808 Liberty Life Bldg.	51 E. 42nd St.



This well known bleachery makes extensive use of Logan Belt and Roller Conveyors. Cutting, sewing, packing, storing and shipping operations are all conveyorized. Belt shown here handles bundles of towels to and from storage.

"Who uses it?" . . . is one of the first questions asked by the buyer of plant equipment. Logan's answer is to point to the large list of blue chip industrials, large and small, who employ Logan Conveyors as part-of-the-process in their manufacturing establishments. Logan equipment increases production tempo, enlarges capacity, speeds deliveries, conserves manpower, decreases labor turnover.

Logan can serve you, too. Write for further information, or for nearest engineer to call.

LOGAN CO., 206 Cabel St., Louisville 6, Ky.

C
CADILLAC MOTOR CAR
CALCO CHEMICAL CO.
CARNEGIE ILL. STEEL
CHASE BRASS & COPPER
CHESEBROUGH MFG. CO.
CHEVROLET MOTOR CO.
CHRYSLER CORP.
CLARK CANDY CO.
CLARK THREAD CO.
COCA-COLA BOTTLING
COLGATE-PALMOLIVE
COLUMBUS BOLT CO.
CONGOLEUM-NAIRN
CONTAINER CORP. AMER.
CONTINENTAL CAN CO.
CONTINENTAL MOTORS
CRANE CO.
CROMPTON & KNOWLES
CRUCIBLE STEEL CO.
CUMMINS ENGINE CO.
CURTISS CANDY CO.
CURTISS-WRIGHT
D
DAN RIVER COT. MILLS
DEERE & CO.
DELCO PRODUCTS CORP.
(cont.)
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Logan Conveyors

Personal NOTES
ABOUT MEN YOU KNOW

(Continued from page 18)

Philadelphia Textile Manufacturers Association elected as its president **Horace T. Greenwood,** president of Globe Dye Works. **Edwin G. Michie** of Andrew Y. Michie & Sons Co., Inc., and **John P. Doerr** of Philadelphia Carpet Co. were elected vice-presidents.

Joe Turner has been transferred from the Asheboro plant to Burlington Mills' Vance Plant, Kernersville, N. C., where he is superintendent. **H. Tony Quinn,** who formerly held that position, was assigned to the newly acquired Burlington unit at Rockwood, Tenn.

Effective the first of this year, **Robert F. Lederer** became assistant to J. Banks Young, Washington representative of the National Cotton Council. Mr. Lederer became a member of the technical department of the utilization research division of the Council in 1953, where he served until his present appointment.

J. Morton Curran, Jr., president of Morton Curran & Co., Inc., and Summerville (Ga.) Mfg. Co., was

Mr. Curran

elected to succeed A. James Mill as chairman of the Textile Section of the New York Board of Trade. Other officers elected by the Textile Section include **William P. Wright, Jr.,** of J. Walter Thompson Co., vice-chairman; **Ralph J. Bachenheimer** of Iselin-Jefferson Co., Inc., treasurer; and **Thomas O. Boucher** of Chicopee Mills, Inc., representative to the New York Board of Trade directorate.

Following the merger of Alexander Smith, Inc., and Mohawk Carpet Mills, Inc., to form Mohasco Industries, Inc., **A. Griffin Ashcroft** resigned as vice-president and director of research and development for Alexander Smith. His department has been consolidated with Mohawk facilities at the Amsterdam, N. Y., plant with Edmund Leonard as act-

For Better Winding - at
LOWER COST!

Whitin-Schweiter
FILL-MASTER*
Filling Winder

The latest addition to Whitin's winder line, the Whitin-Schweiter FILL-MASTER Automatic Filling Bobbin Winder, is a highly versatile machine — a fully automatic, high speed, filling winder with many attractive and unusual features. Among these, a new exhaust device will be very advantageous to all mills encountering dust, lint, and fly in the rewinding process. Each supply package and tension device is housed in a transparent enclosure from which fly, etc., is removed to a dust collector.

ADDITIONAL FEATURES

- Speeds up to 10,000 R.P.M.
- Tail-less Bobbin
- Scissor and Tail Cutter eliminated
- Spindle speed adjustable over wide range for every spindle position
- Automatic empty bobbin loader or new manual or loaded multicell magazine
- New variable layer locking traverse prevents sloughing
- Quick positive adjustment for wound bobbin diameter
- Will handle bobbins up to 10⅛"

* Trade Mark

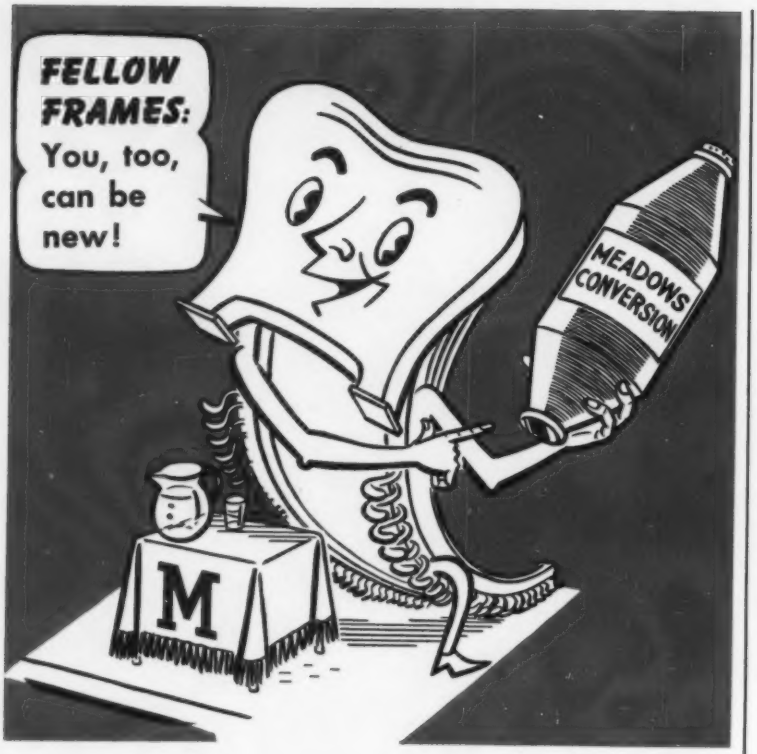
Whitin

MACHINE WORKS

Whitinsville • Massachusetts

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Special sales agent: H. J. THEILER CORPORATION — Whitinsville, Mass., Spartanburg, S. C.



MEADOWS BIG-PACKAGE MODERNIZATION WILL GIVE TOP QUALITY AND PRODUCTION AT HALF THE NEW-FRAME COST!

• We've been doing it for a quarter century —taking old frames and rebuilding them—from floor to creel if need be, making them do things their designers never dreamed possible. So there can be no doubt that full Meadows conversion can give you big packages, plus the production and the quality you'd expect of new spinning or twister frames . . . at about half the price of new ones.

That makes good sense, doesn't it?

MEADOWS MANUFACTURING COMPANY
ATLANTA, GEORGIA

REPRESENTATIVES:

G. P. (Jack) STANLEY, P. O. Station A — Box 3223, Greenville, South Carolina
SAM R. HOGG, P. O. Station A, Atlanta, Georgia
MATTHEWS EQUIPMENT CO., 93-A Broadway, Providence 3, Rhode Island
WALTER S. COLEMAN, P. O. Box 782, Salisbury, North Carolina

Personal NOTES ABOUT MEN YOU KNOW

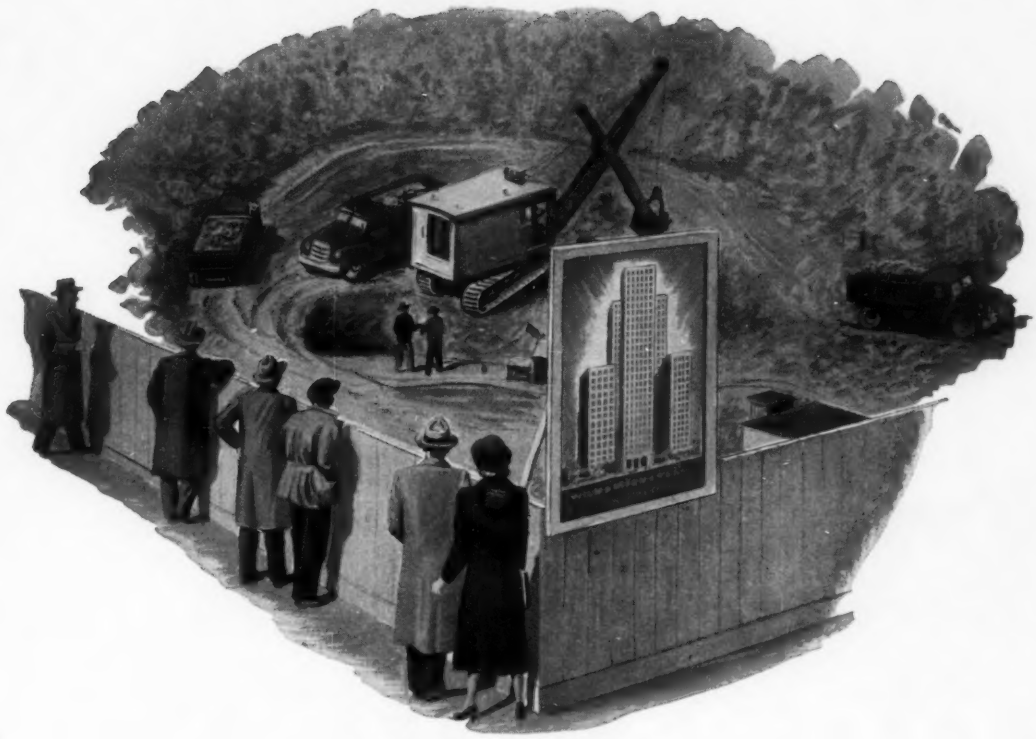
ing director. * * * **Jack L. Rinn** has resigned as director of products for Alexander Smith to become director of marketing for the Hansen Glove Corp.

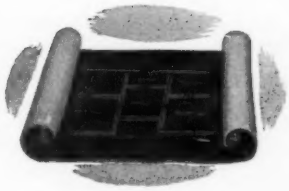
Appleton (Wis.) Woolen Mills announces the election of **F. H. Orbison**

Mr. Orbison

to the presidency of the company, succeeding **Mrs. T. E. Orbison,** who continues as a director.

The following appointments are the result of the recent acquisition of the cotton operations of Pacific Mills by M. Lowenstein & Sons, Inc. (reported in TI for Feb., 1956, p. 227): Since the Lyman (S. C.) Printing & Finishing Co., Inc., is under the jurisdiction of Lowenstein's printing and finishing division which is headed by **William H. Grier** of Rock Hill, S. C., Mr. Grier has over-all responsibility for its operation. **J. E. Crosland,** formerly superintendent of the plant, has been named vice-president and general manager. **W. F. Howard** continues as superintendent of the cotton mill at Lyman; and **T. G. Roche,** general manager of Limestone Mfg. Co. in Gaffney, S. C., serves as manager of the Lyman cotton mill as well. **Tom Lawson** is now general manager of the mills in Columbia, S. C., having been promoted from general superintendent. **Roy Coffee** has returned to the Lowenstein offices in Anderson, S. C., from Wamsutta Mills in New Bedford, Mass., as executive assistant to vice-president J. J. Lyons; he serves in a liaison capacity with Wamsutta and the Pacific group. **Walter McPhail** was named to succeed Mr. Coffee as vice-president of manufacturing at Wamsutta. In a similar position to Mr. Coffee is **Henry Buchanan** who maintains liaison with the Orr and Lyons Mills, Covington Mills, Huntsville Mfg. Co., Limestone Mfg. Co., Aleo Mfg. Co., and Spofford Mills. Purchasing of cotton and mill supplies for all opera-





Foundation for a Fine Finish

UNLIKE MOST THINGS, a building must go deep down before it can go up!

... and the reason is, of course, that it's upon the *foundation* that the safety of the building's fine "finish" depends... a foundation planned for in advance... one designed to do the job *best.*

And this same "factor of safety" can be applied, with profit, in other ways. In your bleaching and dyeing operations, as an example, we know of no better way to plan for a fine finish than to use a de-sizing agent designed to do *that* job best: *Diastafor.*

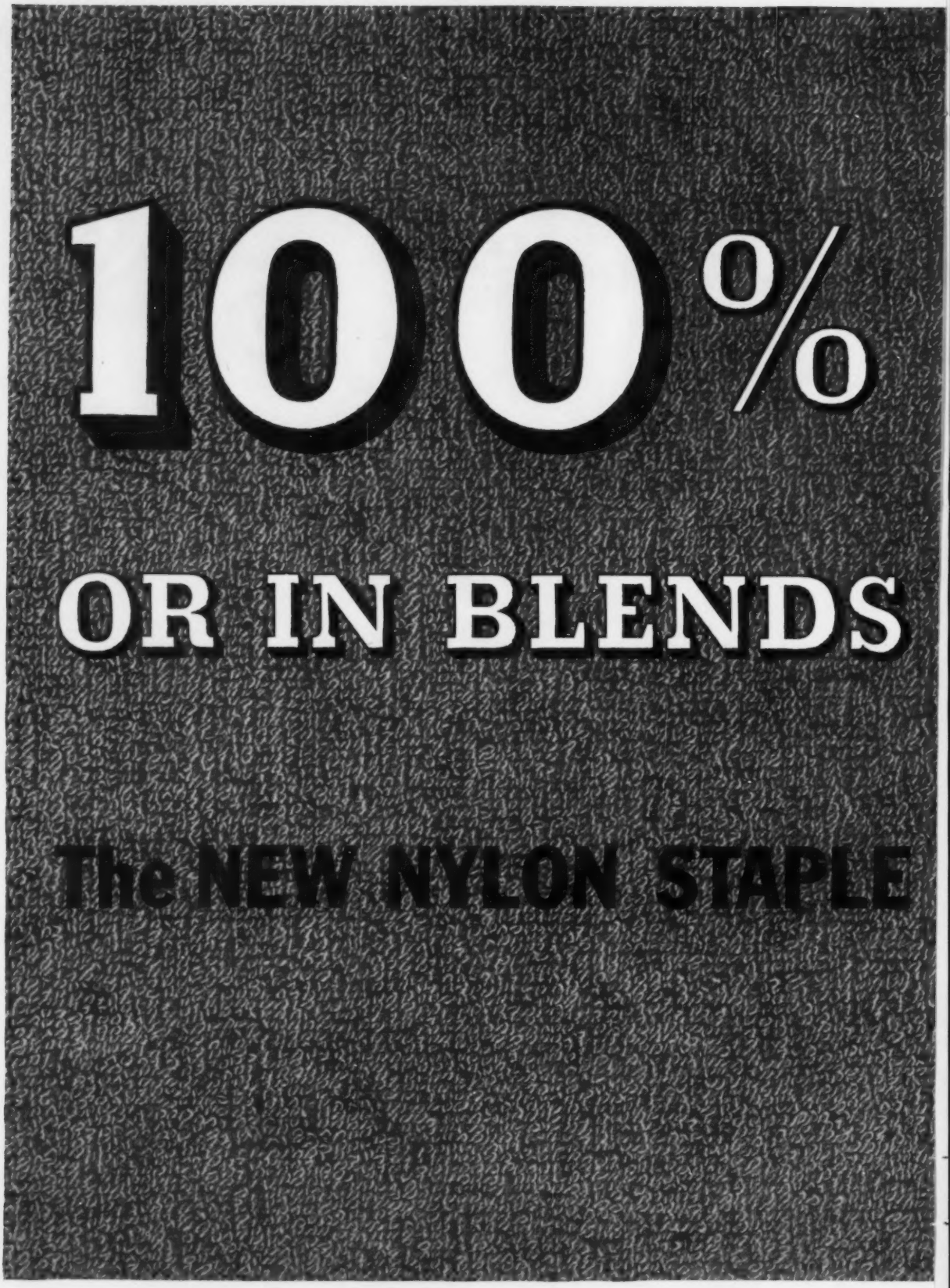
For Diastafor de-sizing agent *works*, no matter what *your* working conditions—whether with various lots, with variations in water or sizing formulas—whether with cottons, rayons or mixed goods. What's more, you will find it works in an unusually wide range of temperatures and pH, a range sure to satisfy your every de-sizing need.

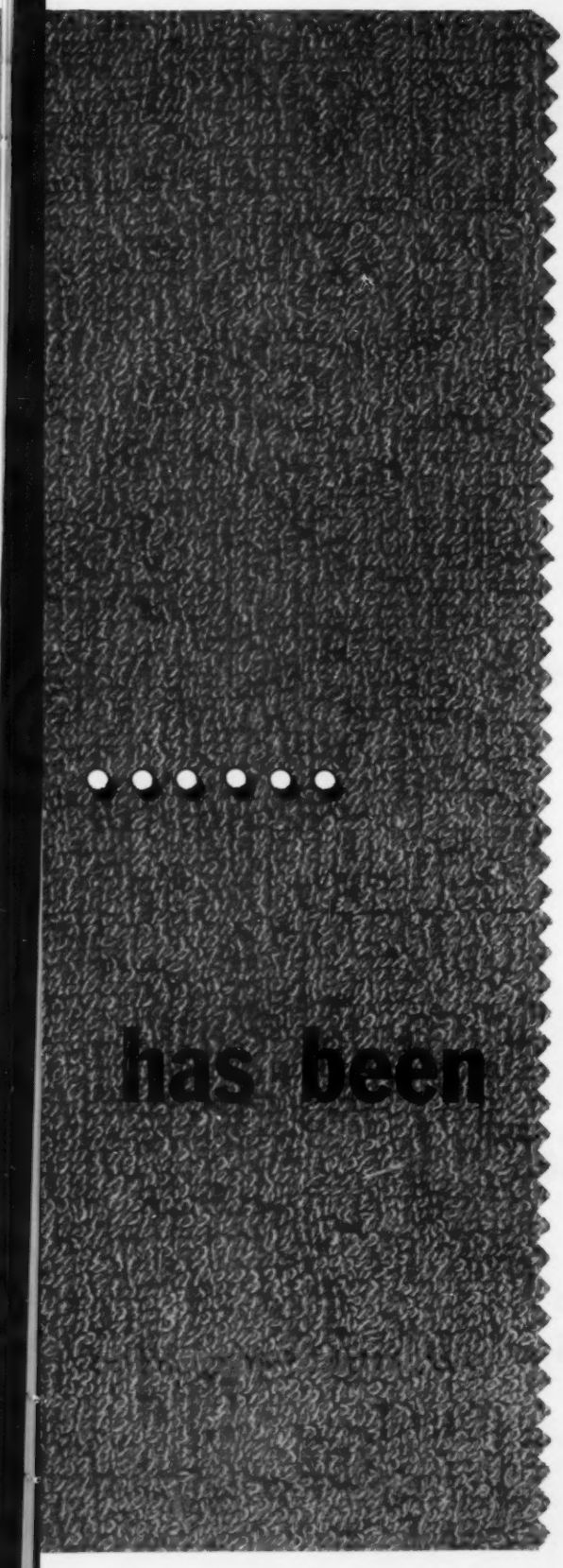
For finishing with ease, speed and economy in either the continuous or batch process—try all-purpose Diastafor! It's available in three types, L, L_2 or D. Remember: this is the product that has been building its fine reputation for more than 44 years!

For further information, feel free to write us... we're here to serve you. Standard Brands Incorporated, *Diastafor Department*, 595 Madison Avenue, New York 22, N. Y.

DIASTAFOR

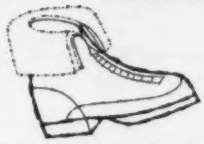
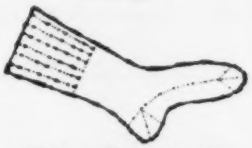
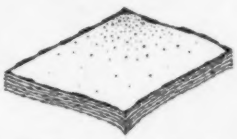
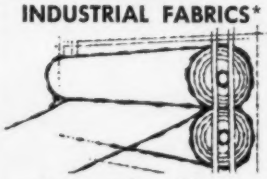
A TRADE MARK OF STANDARD BRANDS INCORPORATED


100%
OR IN BLENDS
The NEW NYLON STAPLE



has been

PROVED!

CARPETING* 100% and in blends	**STADIUM-BOOT INTERLINERS***  100% and in blends
UPHOLSTERY* 100% and in blends	**SOCKS***  100% and in blends
BONDED FABRICS*  100% and in blends	**NON-WOVEN FABRICS*** 100% and in blends
INDUSTRIAL FABRICS*  100% and in blends	* The New Nylon Staple is currently being used in these industries...both 100% and in blends.

You, too, can put new life in your product
. . . bring new products to life with **THE BIG SEVEN**

- GREATER RESISTANCE TO ABRASION • BETTER CRIMP
- MORE RESILIENCY WITH LESS CRUSHABILITY
- BRIGHTER LUSTER • LOWER DYE COSTS
- NEW ECONOMY FOR YOU • GREATER STRENGTH

THE NEW Nylon Staple I·R·C

INDUSTRIAL RAYON CORPORATION, Cleveland, Ohio
Sales Offices: 500 Fifth Avenue, New York 36, N. Y.
627 Guilford Bldg., Greensboro, N. C.

Personal NOTES ABOUT MEN YOU KNOW

tions is done in Anderson under the direction of **Robert W. Smith** and **Sam Belcher,** respectively.

Upon acquiring controlling interest in Triangle Finishing Corp., Johnstown, N. Y., **Robert Patterson** became chairman of the board. Mr. Patterson was vice-president and general manager of Holly-Knit, Inc., prior to its merger with American & Efird Mills, Inc., when he became manager of the finishing division.

Newly elected vice-presidents of Seneca Textile Corp., an operating division of United Merchants and Manufacturers, Inc., are: **Milton G. Agate, Philip W. Cohn, Jerome C. Sternlight,** and **Abe Warshauer.** Other recent appointments are **Harold Campbell,** treasurer; **Monroe Alexander,** secretary; and **Andrew Bauer,** assistant treasurer. **Richard W. Freeman,** regional sales manager of the midwest division, has been named vice-president of Seneca Textile Corp. of Illinois.

Obituaries

Bryan M. Blackburn, 72, vice-president and treasurer of Arnco Mills, Newnan, Ga., and a director of Grantville (Ga.) Mills.

Charles W. Brown, Jr., 60, chairman of the board of Roxbury Carpet Co., Saxonville, Mass.

A. Luther Brown, vice-president and general manager of Cannon Mills Co., Kannapolis, N. C.

Louis Gallet, 51, owner of Gallet Knitting Mills, Inc., Uniontown, Pa.

Frank Ix, Sr., 88, founder and retired president of Frank Ix & Sons Corp., Lexington and Cornelius, N. J.

Frank P. Marson, 58, manager of Buser Ribbon Mills, Murfreesboro, Tenn.

Lonnie Neil Mills, 65, general manager, secretary, and treasurer of Paola Cotton Mills, Inc., Statesville, N. C.

Victor B. Moore, 58, production manager of Durham (N. C.) Hosiery Mills.

Robert R. Ragan, 85, an organizer and director of Ragan Knitting Co., Thomasville, N. C., and an organizer of Highland Cotton Mills, High Point, N. C.

Edgar L. Ramsey, 53, vice-president of A. B. Carter, Inc., Gastonia, N. C.

C. M. Stodghill, 64, president of Stodghill & Co., Atlanta, Ga.

Blake R. Van Leer, 62, president of Georgia Institute of Technology, Atlanta, Ga.

Edward B. Waller, 79, general manager, secretary, and treasurer of Philadelphia (Tenn.) Hosiery Mills.

Edwin H. Bost, 71, retired manager of Erwin (N. C.) Mills.

Anderson A. Cole, 40, partner, Reaco Hosiery Mill, Hickory, N. C.

Louis Granoff, 62, vice-president of S. Granoff Manufacturing Co., Central Falls, R. I.

Thomas R. Hart, 65, professor, School of Textiles, North Carolina State College, Raleigh, N. C.

Charles G. Heines, night superintendent of Duplan Corp., Hazleton, Pa.

James C. Hill, 54, secretary and assistant treasurer of Brown Manufacturing Co., Concord, N. C.

Bertram H. Saunders, 82, retired president and former owner of Ho-Ho-Kus (N. J.) Bleachery, Inc.

Paul B. Wendler, 57, chief engineer and member of the board, Joseph Bancroft & Sons Co., Wilmington, Delaware.

SOUTHERN DIVISION, ROUTE 3, BOX 314, GREENVILLE, S.C.

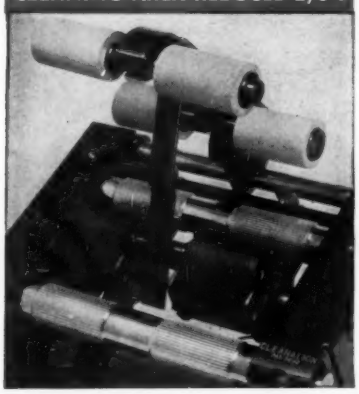
CLEANALIGN SADDLES have been specified in some of the world's largest mills . . . over 400,000 are now in daily use. Maintenance men *know* that CLEANALIGN saves money . . . increases production. Product Acceptance has been gained by Product Performance!

CleanAlign Saddles

PATENT PENDING

give you 5 *Big Benefits!*

NO CAP BARS
CLEANING AREA REDUCED 2/3's



Typical installation, above, shows *CleanAlign* Saddle in use with UNILINE Non-Lubricating Top Rolls in back and middle lines-and with CLIMAX Ball Bearing Top Rolls on front line. Rolls swing up for easy cleaning.

- **CleanAlign Saddles** require no lubrication . . . thus eliminating oiling expense;
- **CleanAlign Saddles** assure oil-free yarn — always . . . minimizing rejects, saving production costs;
- **CleanAlign Saddles** afford wide variety of weight distribution, quickly and easily changed;
- **CleanAlign Saddles** maintain rolls in perfect parallel alignment at all times;
- **CleanAlign Saddles** can be applied to practically any cotton spinning system.

These five big benefits assure top yarn quality, stable production, decreased costs, increased volume. Accrued savings from these operations pay for *CleanAlign* installations many times over — *average annual return 25%*

for further information write or phone

PS PRODUCT SALES, INC.
21 VERNON STREET, WHITMAN, MASS.

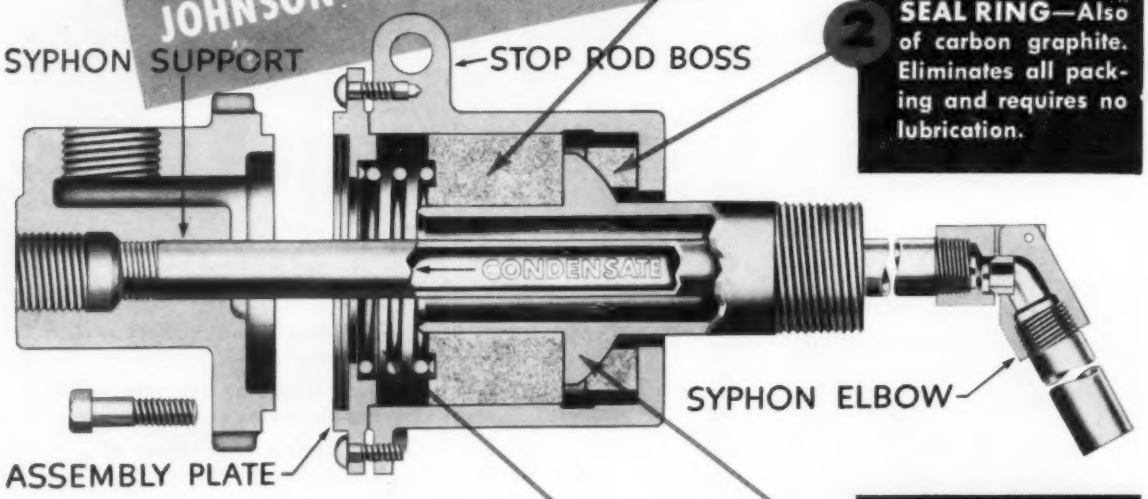
ALSO SALES AND SERVICE OF CLIMAX and CLEANDRAFT TOP ROLLS

Complete Service Facilities and Staff Located Strategically for Immediate Action, as Follows:—

SHOPS: Whitman, Mass. and Greenville, S. C.
J. H. CANADY, 3344 LaBrea Avenue, Montgomery, Ala., serving Ala., Miss., Ga., La., Ark., Tex., Okla., Tenn.
DUDLEY DUNLOP, Product Sales, Inc., 3239 Fairfax Drive, Charlotte, N. C., serving South Carolina
RAYMOND L. McCAULEY, 3020 Manor Road, Charlotte, N. C., serving Virginia, No. Carolina.
FOR EUROPEAN SERVICE:
VICTOR BEECROFT, 54 Boroughgate, Otley, Yorkshire, England
Foreign Agents in The Principal Textile Centers Of The World

Only 4 INTERNAL PARTS!

TYPE SB2-P JOHNSON JOINT and JOHNSON SYPHON ELBOW



1 GUIDE—Makes the joint self-supporting. It is of self-lubricating, long-wearing carbon-graphite.

2 SEAL RING—Also of carbon graphite. Eliminates all packing and requires no lubrication.

3 NIPPLE—Rotates with the roll, and seals against the ring.

4 SPRING—Serves for initial seating only. In operation joint is pressure sealed

Notice how straightforward and simple is the design of this Johnson Joint. This unmatched simplicity means fewer breeding places for trouble... simplifies overhaul and repair out in the field. At the same time the joint is completely packless, self-adjusting, self-lubricating and self-supporting.

In this Series 3000 Type SB2-P the assembly plate holds the internal parts in position when head is removed. This makes it a perfect teammate for the Johnson Syphon Elbow which can be inserted or withdrawn right through the joint.

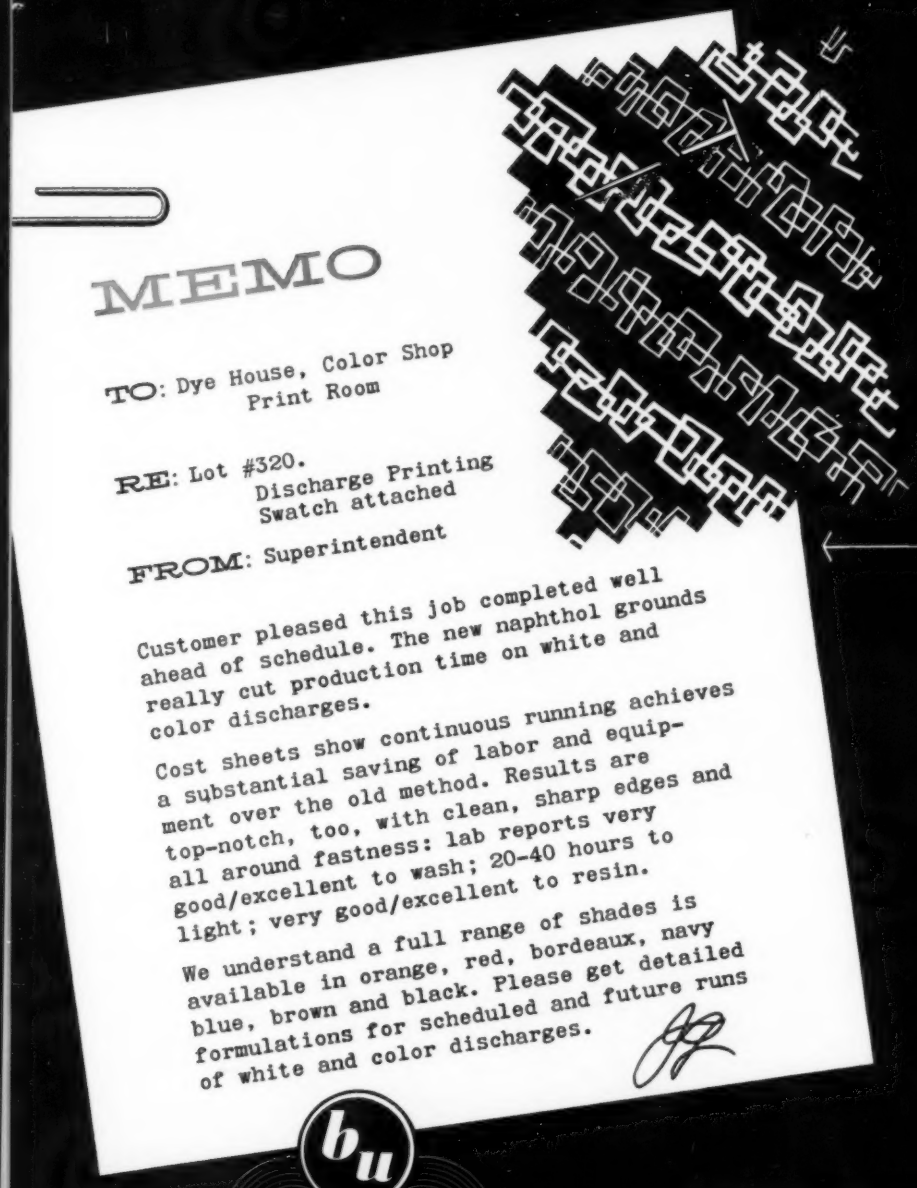
Test it yourself—We'll gladly supply a pair of the units shown for 90 day trial right in your own mill; no obligation of course. Write for details and literature.

Products of The Johnson Corporation

815 WOOD ST., THREE RIVERS, MICH.

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

Your next run of Discharge Printing will rate this memo if you mail this coupon



MEMO

TO: Dye House, Color Shop
Print Room

RE: Lot #320.
Discharge Printing
Swatch attached

FROM: Superintendent

Customer pleased this job completed well ahead of schedule. The new naphthol grounds really cut production time on white and color discharges.

Cost sheets show continuous running achieves a substantial saving of labor and equipment over the old method. Results are top-notch, too, with clean, sharp edges and all around fastness: lab reports very good/excellent to wash; 20-40 hours to light; very good/excellent to resin.

We understand a full range of shades is available in orange, red, bordeaux, navy blue, brown and black. Please get detailed formulations for scheduled and future runs of white and color discharges.

bu ALLIANCE

BLACKMAN-UHLER
Spartanburg, S. C.

ALLIANCE
COLOR & CHEMICAL CO.
Newark, N. J.

Divisions of The Andover Company

BLACKMAN-UHLER CO.
Spartanburg, S. C.

☐ Please have your representative call.

☐ Please send formulations for naphthol colors recommended for discharge grounds.

Name and Position _____

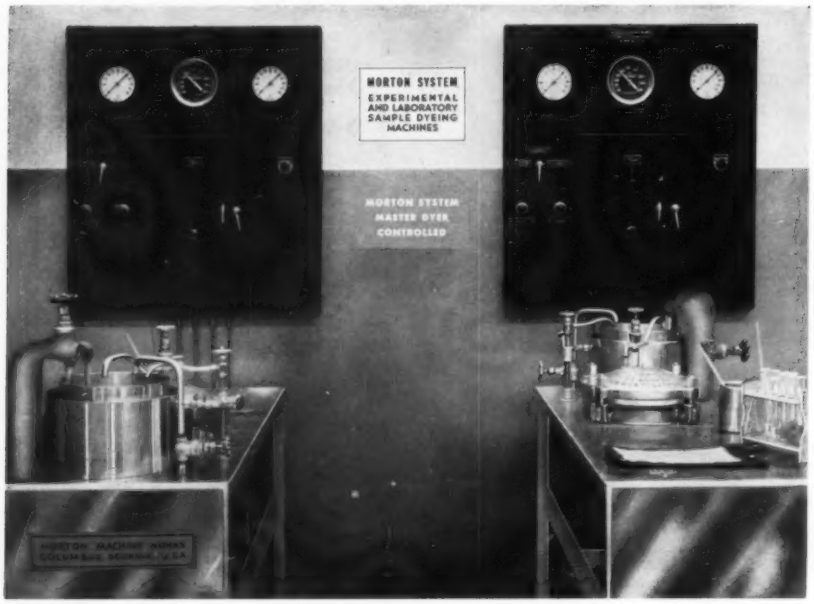
Firm Name _____

Address _____

City _____ State _____

MORTON SYSTEM

EXPERIMENTAL AND LABORATORY SAMPLE DYEING MACHINE



This sample unit is designed to aid Dyer in determining the formulae to be used in the production machines. This is a splendid machine for laboratory work and it is for use with all types of packaged yarn wound on springs or tubes. Natural or synthetic stock or yarn may be processed in this machine at conventional pressures and temperatures; or elevated temperatures and at high pressures. Machine mounted on a stainless steel laboratory table.

The Morton System Laboratory Sample Dyeing Machines have all parts contacting the liquids in the machine constructed of stainless steel or any metal specified. The entire machine is similar to the production units and has all the features such as reversible dye liquor flow, controlled by Morton Ball Bearing Reverse Valve.

★—Machine may be heated by steam or electricity.
★—For use at temperatures up to 325° F.
★—Continuous wash.
★—Heavy Duty Engineering Principles.

Manufactured by:

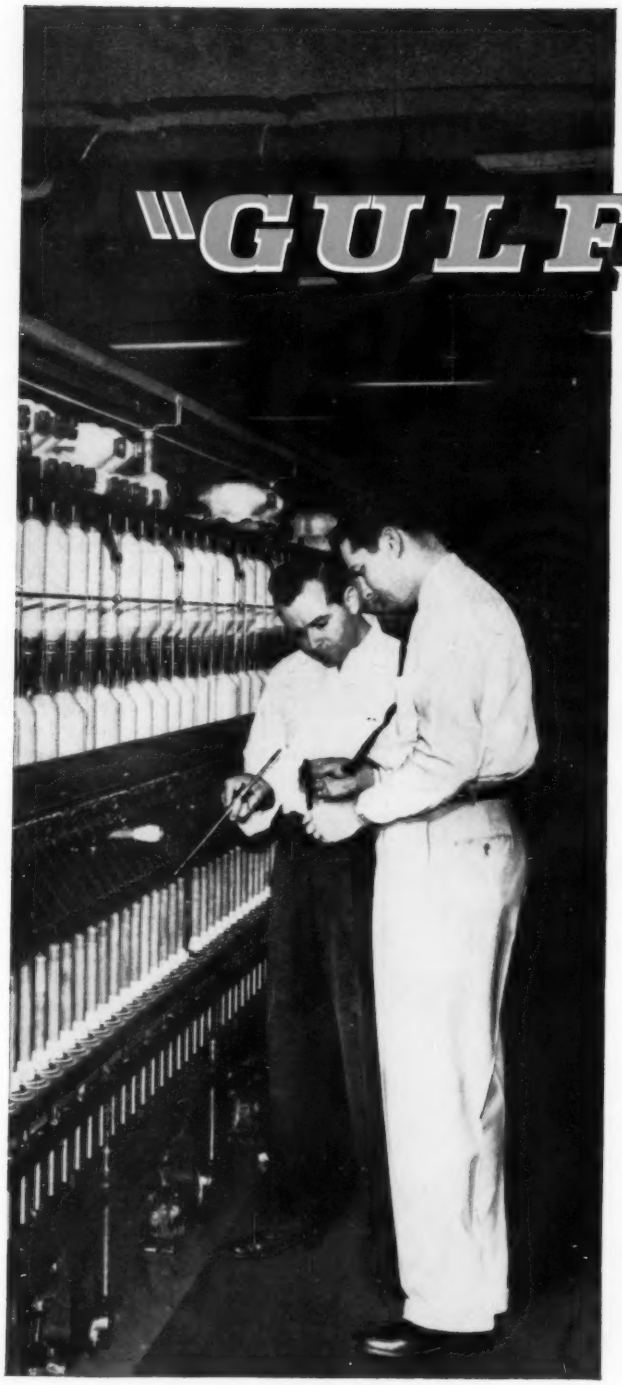
MORTON MACHINE WORKS, Inc.

COLUMBUS, GEORGIA, U. S. A.

Manufacturers of the MORTON SYSTEM Machinery for Dyeing and Bleaching of:

BEAMS -:- PACKAGES -:- STOCK -:- PIECE -:- TOPS

VALVES — PUMPS — BEAM AND PACKAGE EXTRACTORS AND DRYERS — DYE BEAMS, ALL MAKES AND DESIGNS — DYE TUBES — DYE SPINDLES — TUBE SPACERS — CUSTOM BUILT TANKS TO CUSTOMER'S SPECIFICATIONS.



"GULFSPIN

keeps our spindles spinning clean and free,"

says...

W. M. LONG, superintendent
Rowan Cotton Mills Company,
Salisbury, North Carolina

"We have used Gulfspin for four years and have found that it almost entirely eliminates sticking spindles," says Mr. Long. "It also keeps sludge in suspension so that we do not have to pump our spindle bases as often."

In addition to the benefits cited by Mr. Long, Gulfspin also provides effective protection against rust and reduces power costs because of its ability to maintain its original viscosity after many months of service.

You'll find that the use of Gulfspin will contribute to smoother spindle operation, fewer ends down, and rock-bottom maintenance and power costs.

Contact a Gulf Sales Engineer and let him demonstrate Gulfspin's superiority on your frames. You'll find the number of your local Gulf office in the telephone directory.

GULF OIL CORPORATION
GULF REFINING COMPANY
1822 GULF BUILDING
PITTSBURGH 30, PA.

GULF

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

B. G. Stumberg, Jr., Textile School, N. C. State '41-'42, T. E., Georgia Institute of Technology '49; Cotton mill overseer and Ass't. Supt. to 1955; Technical Sales Repr., Southern Sizing Company.

BUT HE WORKS FOR YOU!

If you have a sizing problem in your mill, the logical thing to do is to get a sizing expert to solve it for you.

Put in a collect call to Southern Sizing Company or contact one of our representatives today! We have six men on our payroll whose job it is to help you make your mill run better. All are experienced engineers and all know weaving and slashing inside and out. One or more of these men is located near you.

We're the first to admit they aren't the prettiest guys in the business but we know they're the best when it comes to solving your sizing problems. Superior service and superior size are our two stocks-in-trade.

WALTON RUSSELL BOB JIMMIE ROBERT

SSC Sizing and Service Salesmen left to right, Walton Simmons, C. Russell Gill, Robert E. DeLapp, Jr., Jimmie D. Walker, Robert V. May.

SOUTHERN SIZING COMPANY

SUPERIOR SIZE, SUPERIOR SERVICE

East Point, Georgia

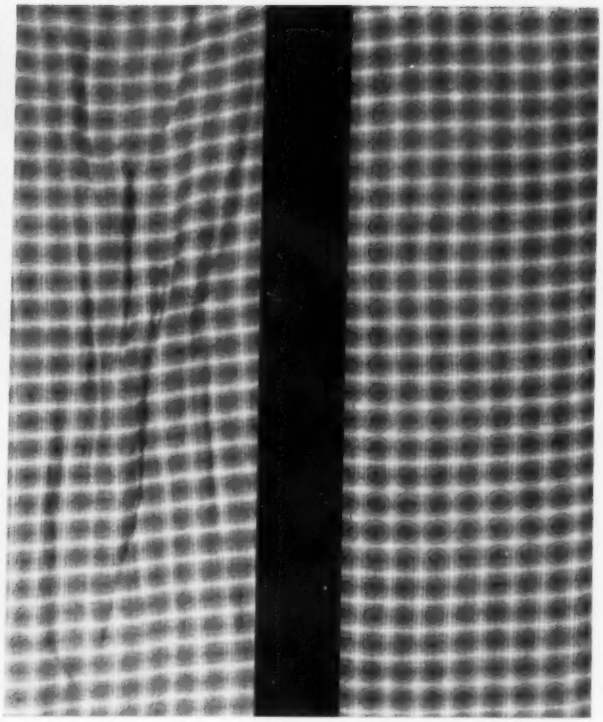
PHONE POPLAR 1-8871

SSC

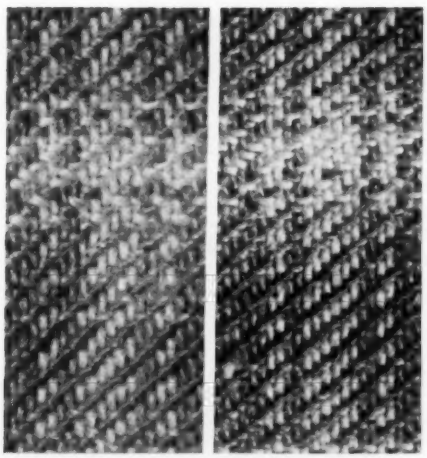
What the TEXTILE MILLS are doing

To promote better public understanding of the textile industry, an invitational tour program has been inaugurated by **Abney Mills** in the seven South Carolina communities where the chain has plants. Once each week a designated Abney official in each of the seven communities invites as his personal guests for an informal tour four or five merchants, ministers, physicians, educators, or other business and professional leaders to visit the Abney plant or plants in the community or area. The number of persons invited is limited to four or five so that questions can be answered in more detail and personal attention can be given to each guest. * * * Another phase of the Abney public relations program is the establishment of a speakers bureau to make available to civic clubs and other groups supervisory employees who will speak on various phases of textile manufacturing, etc. * * * At special ceremonies in Travelers Rest, S. C., Renfrew Bleachery recently received the special plaque award of the Greenville County United Fund for having made a greater per employee contribution than any other industrial plant. * * * Toxaway Corp., a subsidiary of Abney Mills, has purchased the properties it has been leasing from Amerotron Corp. in Anderson, S. C.—the Toxaway, Ladlassie, Riverside, Southside, and Gossett plants. They will be operated as a division of Abney Mills. * * * A payroll savings plan went into effect for Abney Mills employees the first of the year. Arrangements were made with several building, savings, and loan associations to carry these accounts at three per cent interest. Deductions are made from wages in any amount the employees desire, and can be changed at any time.

Albany (N. Y.) Felt Co. is building a 100,000 sq ft plant at St. Stephen, S. C., with completion scheduled for the end of March. The building is designed with two temporary walls to simplify future expansion on the 100-acre site. Equipment will include felt looms up to 600" in width, and 84" woolen cards. All of the woolen manufacturing operations, including carding, spinning, weaving, and finishing



WICA RESIN 550!



SURFACE **REACTANT**

We will treat a sample of your fabrics on request.

Sending a boy to do a man's job? WICA 550 will do a man size job for your fabric, because it is *the* reactant resin. Surface resins had their place before WICA 550. Now WICA 550 actually becomes a part of the fiber with resulting increases in resiliency, tensile strength, and hand. WICA 550 gives your fabrics full blown-up feel, makes your fabrics alive and lets them breathe. No mark-off with WICA 550. There is higher resistance to surface abrasion, less effect on dyed shades, and more rapid hangout. Ease of handling is a built-in plus with WICA 550 . . . a plus that you can see when reorders show the cutter's choice!

WICA

WICA CHEMICALS INCORPORATED

DYESTUFFS • INDUSTRIAL CHEMICALS
TEXTILE SPECIALTIES • LATICES • ADHESIVES

P. O. BOX 506 PHONE FR 6-6514 OLD CONCORD RD.

Charlotte, North Carolina

HARD, DIRT-RESISTANT Tennant-sealed floor needs only fast sweeping for daily care.

COMPARED WITH 5 YEARS AGO...

you now get brighter, cleaner floors at 1/2 the cost

When TENNANT introduced the dry-cleaning method years ago, it slashed previous textile floor maintenance costs to an all-time low.

But today, as a result of *important new improvements,* it does even more. It reduces average annual maintenance costs to about 50% of what they were just 5 years ago. And today's *tennantized* floors—as the photo shows—are far brighter . . . cleaner . . . more dirt-resistant than ever before. Some of them look like ballrooms!

New, Easy-to-Use Techniques Save Manhours

Here's why these new cost-saving results are possible:

1 Tennantized floors now need only 1/5 to 1/10 the former buffing, and about 50% as much labor-per-square-foot . . .

2 Improved Tennant materials last up to 4 times longer, stand up better under oil, moisture, dirt and traffic . . .

3 New techniques save time in problem areas such as humid weave rooms, in twisting, etc. *Ask for free, accurate estimate of savings your mill may expect.*

TENNANT
ESTABLISHED 1870

G. H. TENNANT CO.
2524 N. 2nd Street
Minneapolis 11, Minn.

FLOOR MAINTENANCE SYSTEM

What the TEXTILE MILLS are doing

will be carried out.

Three textile manufacturers were recently certified as "excellently managed" by the American Institute of Management. Receiving the award for the sixth consecutive year was **Cannon Mills Co.** Those receiving the award for the fifth consecutive time were **Pepperell Manufacturing Co.** and **West Point Manufacturing Co.** The awards were made to 408 American and Canadian firms for 1955. The purpose is to "bring deserved recognition to those companies whose managements are doing most to increase productivity, with accompanying benefits to employees, shareholders, community neighbors, and to the economy as a whole."

Ames Textile Corp., Lowell, Mass., is now manufacturing non-woven fabrics, having recently purchased the majority of the common stock of **Buresh Non-Wovens, Inc.,** Northampton, Mass. The plant is now a subsidiary of Ames and its officers are: Brooks Stevens, Jr., president; Francis M. Buresh, who was formerly president and sole owner, vice-president and executive officer; and Alden French, treasurer. Expansion of the operation is planned, and the program includes a new building now under construction in Westfield, Mass. When it is completed early this summer, equipment now operating in the Northampton plant will be moved to Westfield.

Berkshire Knitting Mills closed the **No-Mend Hosiery, Inc.,** mill at Gainesville, Fla., on Feb. 6, because the "plant's knitting machines are not sufficient to continue economical operation." The equipment is being moved to other plants.

Burlington Industries is starting production this spring at its new South American plant at Valencia, Venezuela, known as Branger Burlington Textiles, C. A. It is a partnership venture between Burlington and C. A. Sucesora de Ernesto L. Branger, well-known cotton manufacturer in that country. Armando Branger has been named general manager of the operation and R. P. Arnold plant manager. New structures adjacent to the Branger plant are being utilized along with existing buildings. Personnel is South American, with the exception of a few technicians from

for high speed wetting and rewetting

nekal *ws-21*

The new **Nekal WS-21** is designed to give maximum efficiency for both wetting and rewetting at all temperatures. What's more, this liquid form chemical has a pleasant odor and controlled foaming qualities.

Nekal WS-21, the Wetting Agent, will produce excellent results in such operations as:

- ★ High speed continuous dyeing.
- ★ Package and beam machine processing.
- ★ Resin finishing, sizing, desizing and bleaching.
- ★ Wetting in jigs, padders, reel machines and open tubs.

Nekal WS-21, the Rewetting Agent, makes textiles highly absorbent. It is used:

- ★ To give rewetting in sanforizing.
- ★ For rewetting prior to dyeing and printing.
- ★ For finishing purposes on cellulosic and animal fibers.

If a highly concentrated product is preferred, use **Nekal WS-25,** a liquid brand three times the strength of **Nekal WS-21.**

Write today for a circular on **Nekal WS-21** and **Nekal WS-25.**

ANTARA® CHEMICALS

A SALES DIVISION OF GENERAL ANILINE & FILM CORPORATION

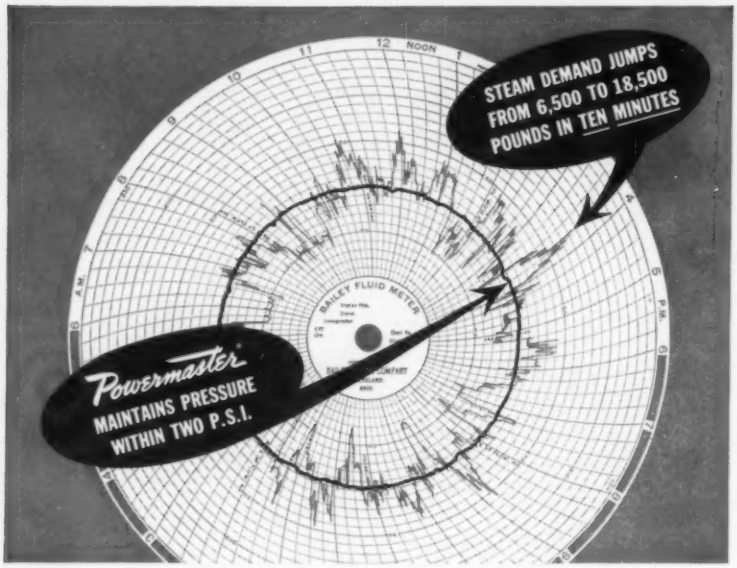
435 HUDSON STREET • NEW YORK 14, N. Y.

SALES OFFICES: NEW YORK • BOSTON • PROVIDENCE • PHILADELPHIA • CHARLOTTE, N. C.
CHICAGO • PORTLAND, ORE. • SAN FRANCISCO • LOS ANGELES

IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LIMITED, MONTREAL

ANTARA gaf

"From Research to Reality"



Powermasters maintain constant pressure against extreme load swings

• This chart shows a 24-hour run on an installation of two 300 HP *Powermaster* Packaged Automatic Boilers. The load varied from 3,000 lb/hr to about 19,000 lb/hr. This is typical of the widely varying load swings that are encountered in many operations.

The *Powermaster* carries such loads with practically no variation in steam pressures, and continues to operate with full efficiency.

You get MORE than instant response with *Powermaster*

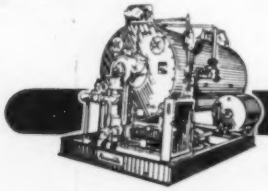
- ★ Low-cost, space-saving installation
- ★ Fast steaming
- ★ Fuel economy
- ★ Quick fuel change-overs
- ★ Clean, dry steam
- ★ Automatic operating and safety controls
- ★ Clean, quiet operation
- ★ Smokeless combustion
- ★ One-source responsibility for complete unit
- ★ Nation-wide factory-trained service organization
- ★ Pay-As-You-SAVE Purchase Plan

Powermaster's outstanding performance can be yours quickly and easily under Orr & Sembower's new Pay-As-You-SAVE Purchase Plan. Write for full details and a copy of Bulletin 1220.

Powermaster®

PACKAGED AUTOMATIC BOILERS

Sizes to 500 HP; pressures to 250 psi.



ORR & SEMBOWER, INC.

Morgantown Road, Reading, Pa.

What the TEXTILE MILLS are doing

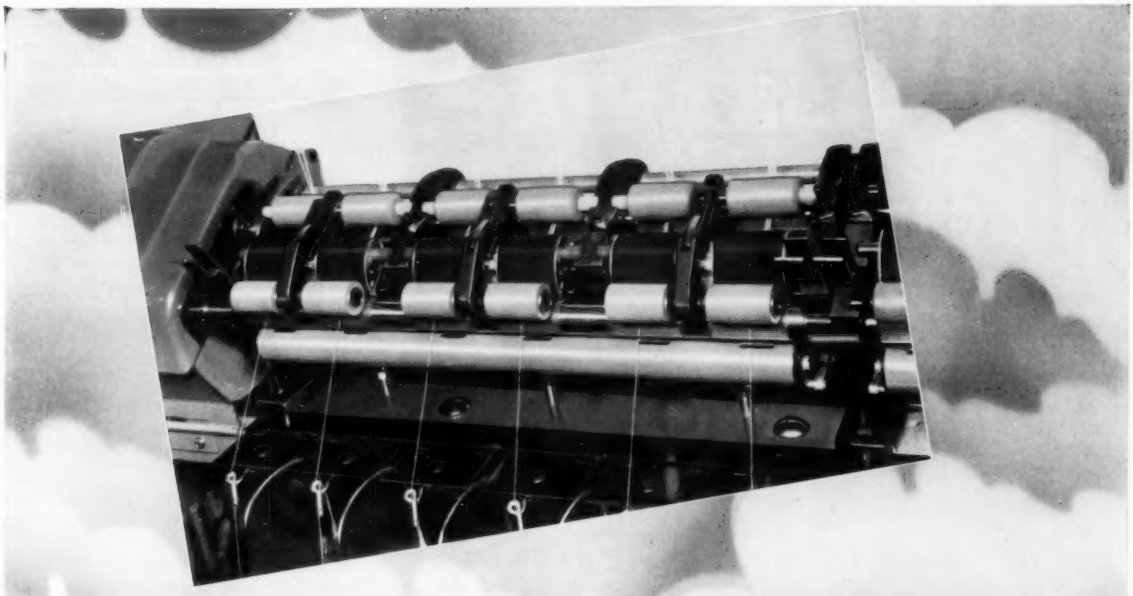
Burlington's American plants. Mr. Arnold was until recently group manager of Burlington mills at Johnson City and Bristol, Tenn. The plant is completely integrated from spinning through the dyeing and finishing of woven goods of natural and synthetic fibers. * * * Burlington Narrow Fabrics has expanded its range of products to include plastic webbing for summer furniture and other uses. The webbing is being woven in the company's plant in South Hill, Va. * * * Burlington Mills has converted the Reidsville, N. C., plant from the manufacture of ribbon to the production of draperies and bedspreads. The ribbon operations have been consolidated with those at South Hill, Va.

Collins & Aikman Corp. has introduced 100 per cent nylon carpeting with a built-in foam cushion, known as "Candalon Foam-Cushion." A bulk-free pile of stock-dyed nylon, the surface is woven on Jacquard looms in fine weaves that eliminate crushing and footmarks. High quality foam composition assures a lasting resiliency. The carpet, which is being produced at the Roxboro, N. C., plant, is offered in 54-inch width, four patterns, and a variety of colors. * * * Collins & Aikman has also announced the production of household and commercial tufted broadloom carpeting at its Calhoun, Ga., plant Two qualities in eight solid shades of high-decorative colors are made of cut pile on a 100 per cent jute backing that adds considerable strength and body to the carpeting and increases its wear resistance.

Craftspun Yarns, Inc., has expanded its Coralee Fabrics pilot plant knitting operations at Kings Mountain, N. C.

Deering, Milliken & Co. recently purchased the **Machias (Me.) Mfg. Co.** from Amerotron Corp. The 300-loom filament weaving plant is under the direction of Alan B. Sibley of Greenville, S. C. * * * 40,000 new spindles are being installed in Laurens (S. C.) Mills. The high draft cotton spinning frames will replace 35,000 old spindles and provide 5,000 additional ones.

Gallant Mfg. Co. is the new name of the filament rayon weaving plant in Newmarket, N. H., now owned by



1,250,000 SPINDLES OF SACO-LOWELL DUO-ROTH —BOTH STANDARD AND STAY-CLEAN*—

are now in operation producing higher quality, stronger, more even yarn in over 280 mills.

1. The long, thin, flexible bottom apron passes the nose of the apron bar with a small radius of curvature in a manner which allows a close setting between the nip of the aprons and nip of the front roll, a condition necessary for the most efficient fibre control in the final drafting zone.

2. Without exception, mills using the Duo-Roth System have increased their drafts as much as 50 to 100 per cent, and at the same time have produced a yarn of greater strength and evenness.

3. The greater strength and evenness is vividly shown in a Duo-Roth installation producing 21's yarn from .75 hank single roving, employing a 4.52 twist multiple — the break factor secured is 2339. Previously, the same frames running regular drafting were producing 21's yarn from 1.50 hank single. With same twist multiple highest break factor obtainable was 2104.

4. Duo-Roth is cleaner; there is a reduction in clearer waste as the shorter fibres are efficiently controlled. After raising the draft from 19 on Roth to 33 on the Duo-Roth, one mill was able to extend the top roll cleaning period from 24 hours to 48 hours, on a three-shift basis. Another mill, with a 50 per cent increase in draft after changing to Duo-Roth, also extended the top roll cleaning period from 24 hours to 48 hours.

5. Duo-Roth was engineered to be a simple, quickly applied change-over to existing Roth installations. Mills having Roth frames in good condition will find that Duo-Roth will pay for itself in savings resulting from increased draft, reduced cleaning, improved operating conditions and smoother, stronger yarns.

6. Duo-Roth is the only double-apron drafting system which does not develop wear of the cage against the apron driving roll. The standard Duo-Roth middle top roll, driving the apron, is built with a stationary arbor. The cage rests against the stationary arbor, eliminating the possibility of cage wear — a common problem with other systems.

7. The knurled and polished surface of the Saco-Lowell Duo-Roth middle top roll creates a positive and uniform drive for the aprons. Since both of the driving bosses are tied together, there is no variation in the speed of the top roll aprons regardless of the bulk of the strand being drafted. There is no slip or hesitation to create unfavorable conditions in the principal drafting zone.

8. The Duo-Roth, with the adjustable cage is extremely flexible. The correct pressure to establish the necessary degree of fibre control for the most efficient drafting can be quickly attained through easy adjustments.

A BROCHURE FULLY DESCRIBING SACO-LOWELL DUO-ROTH IS AVAILABLE ON REQUEST. SACO-LOWELL ENGINEERS WILL ALSO BE GLAD TO ARRANGE A DEMONSTRATION.

SACO-LOWELL

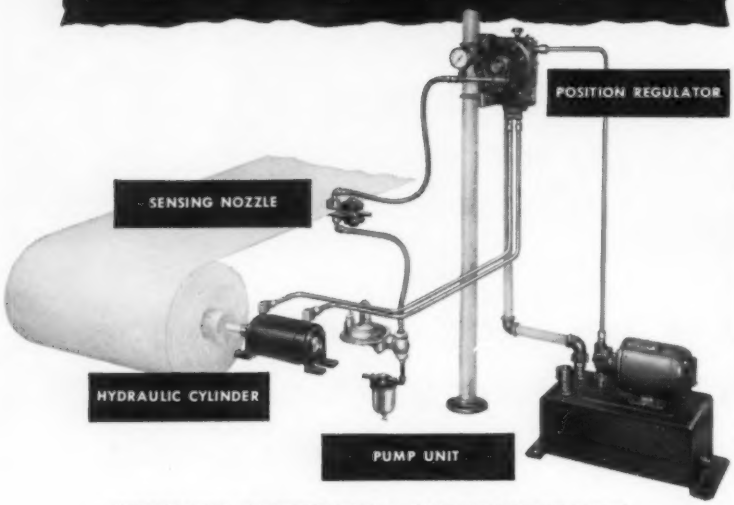
60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

NOW

ASKANIA
Cloth Guide Control for LIGHTER DUTY SERVICE



INCREASES PRODUCTION • IMPROVES QUALITY
REDUCES COST • INSTALL IT YOURSELF • MAINTAIN EASILY
OPERATE IN ANY MILL

• Now *automatic* cloth guide control can be used with the small textile machine to get the *same* production increase, cost reduction and improved quality already obtained with larger equipment...and at a lower investment cost!

A VERSATILE PACKAGE

The Model "500" ASKANIA Edge Guide is furnished as a complete package designed and engineered specifically for use on small equipment. It provides accurate edge control on pay-off, windup or steering rolls. It can be applied to *any* size warp on a small machine in *any* mill. Your own mill mechanics can install it! Your own equipment is the only limit to the accuracy you can obtain. *The precision with which examining, slitting and other operations are regulated is a major production factor.* Perfect alignment at high speed is a feature that means greater profit in your mill.

Nothing contacts the moving warp. A *jet of air* actuates the controller. The exclusive ASKANIA cloth guide measures warp errors of less than .005 of an inch, converts the air stream into a hydraulic force that applies the work cylinder to the job.

You'll want further information. Write for Bulletin No. 166, Askania Regulator Company, 260 East Ontario Street, Chicago, Ill.

ASKANIA REGULATOR COMPANY

"CONTROLS FOR INDUSTRY"

HYDRAULIC, ELECTRONIC CONTROLS & SERVOS, GENERAL SYSTEMS, ENGINEERING & COMPUTER SERVICE, VALVE ACTUATORS & CYLINDERS

A Subsidiary of General Precision Equipment Corporation

What the TEXTILE MILLS are doing

Richard Gallant.

Construction is under way on a new 30,000 sq ft building in Monroe, N. C., to house the equipment from all three of the **General Knitting Mills** plants in Union County and also additional machinery to expand production capacity. Completion of the building is scheduled for late in April.

Jacquard Mills Co., Morganton, N. C., was recently purchased by **Crown Plush Mills** of Paterson, N. J.

Knit Products Corp. No. 2 and Knit Products Corp. No. 3 have been merged with Knit Products Corp., Belmont, N. C. Henry Lineberger is president and treasurer of the surviving corporation, **Knit Products Corp.** All dyeing, finishing, and shipping operations have been consolidated.

The corporation recently formed by the consolidation of Mohawk Carpet Mills, Inc., and Alexander Smith, Inc., is known as **Mohasco Industries, Inc.,** instead of Masco Industries, Inc., as the firm had previously announced.

W. Fred Davis, general manager of **Palmetto Worsted Mills,** Laurens, S. C., is shown here with truck driver Billy Stone examining a way bill

covering the truck load of top just received from Nichols & Co.'s Johnsonville, S. C., top making plant, **Wellman Combing Co.** According to the announcement, Nichols & Co. is now operating its own fleet of trucks to provide better service for its customers, and this shipment to Palmetto is Nichols' first truck load destined for a southern mill.

Part of a modernization program at **Parkdale Mills, Inc.,** Gastonia, N. C., is the installation of new three-over-four drawing frames.

Peerless Finishing Corp., formerly of Paterson, N. J., has moved to 21

AMERICA'S LEADING SYNTHETIC DETERGENT

Smart "clock-watchers" made

Nacconol® SL

the largest selling liquid detergent in the textile industry*

Time and money conscious mills know you can save handling time and costs too with Nacconol SL. Being a liquid concentrate, it is easy and clean to handle *and* requires no dissolving. Simply add water to secure the desired working concentration.

And remember—you get more cleaning-power-per-dollar with Nacconol SL (based on an active ingredient basis compared with most dry products).

Why not join the mills that are cutting production costs with Nacconol SL?

Other popular forms of Nacconol for wet processing include Nacconol DB, Nacconol NR and Nacconol NRSF.

* Alkyl Aryl Sulfonate

Send for your Sample

Nacconol

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y. • HAnover 2-7300

Boston 16, Mass., 150 Causeway St. CApitol 7-0490 · Charlotte 1, N.C., 201-205 West First St. EDison 3-9221
Providence 3, R.I., 15 Westminster St. DExter 1-3080 · Richmond 19, Va., 8 North Fifth St. Richmond 2-1920
Philadelphia 6, Pa., 200-204 S. Front St. LOmbard 3-6302 · Columbus, Ga., Columbus Interstate Bldg. Columbus 7-4512
Los Angeles 58, Cal., 4814 Loma Vista Ave. LOgan 8-2257 · Greensboro, N.C., Jefferson Stand. Bldg. GReensboro 2-2518
San Francisco 5, Cal., 517 Howard St. DOnner 1-2707 · Chattanooga 2, Tenn., James Bldg. Chattanooga 4-6347
Portland 9, Ore., 720 West Burnside St. BRoadway 1893 · Atlanta, Ga., 1216 Spring St., N. W. TRinity 6008
Chicago 54, Ill., The Merchandise Mart SUperior 7-3387 · New Orleans 12, La., Carondelet Bldg. Raymond 7220
Toronto 2, Can., 137-145 Wellington St. W. Empire 4-6495

Allied Chemical

Sandpapering

Close-up of the business end of the specially designed Armstrong Abrader. Synthetic rubber samples are rotated against a ribbon of fresh sandpaper moving in opposite direction, so combined motion equals 100 inches per minute.

synthetic rubber...to make sure

ACCOTEX APRONS GIVE LONG, DEPENDABLE SPINNING LIFE

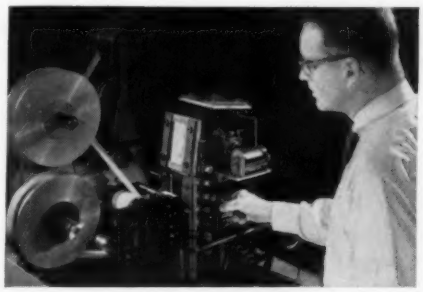
Sandpapering rubber is rough treatment, but it's an important research procedure that's used to build greater abrasion resistance into the Accotex® Aprons you use. Today that characteristic is more important than ever because of the heavier weighting used on high-draft frames.

Armstrong research men developed the automatic abrader shown here. On it, samples of as many as six synthetic rubber compounds can be tested by rotating them against a continuously moving ribbon of fresh sandpaper. The samples that lose the least amount of rubber (by volume) obviously have the best abrasion resistance. In just a few hours on this abrader, wear is equal to years of mill service.

The sandpapering test is only one of many exacting steps taken to make sure Accotex Aprons give the best possible performance on modern, long-draft frames. Other advanced research and development methods, plus the latest production techniques, also assure you that these aprons will deliver top-quality yarn.

If you're not already using Accotex Aprons, arrange for a test frame next time your Armstrong representative calls. No matter what type of equipment you're using . . . no matter what you're spinning, there's an Accotex Apron specially engineered for your needs.

Write for the booklet, "Armstrong Textile Roll Coverings and Mill Supplies." Armstrong Cork Company, Industrial Div., 6403 Ivy Street, Lancaster, Pennsylvania.



After a run on this automatic abrader, Accotex Apron compounds are carefully weighed. This procedure helps determine their abrasion resistance, or ability to resist the wear frequently caused by higher weightings on today's high-draft frames.

Armstrong ACCOTEX APRONS

. . . used wherever performance counts

REPUTATION

Is Mighty Important When You're Getting Up That Saturday Foursome

When you're arranging that Saturday foursome, it's important to see that you get the best golfer on your side!

It's also important to choose the electrical contractor with the best reputation to handle electrical projects in your mill. J. M. Clayton Co. has the reputation and the know-how . . . you'll hear the name mentioned wherever quality electrical contracting is being discussed.

J. M. CLAYTON CO. 1906 50 1956 YEARS

J. M. CLAYTON CO.

CONTRACTING ELECTRICAL ENGINEERS

ATLANTA, GEORGIA

What the TEXTILE MILLS are doing

Wagaraw Road, Hawthorne, N. J., where a 38,000 sq ft plant has been equipped almost entirely with new machinery at a cost of over $250,000. Joseph Rutler is head finisher and John Rento superintendent.

A wider range of finishing services offered at **Pepperell (Ala.) Manufacturing Co.** has been made possible by the installation of a 60-inch continuous dyeing range for vat, sulphur, and naphthol dyeing; also a new 60-inch mercerizer. New bleaching and preparatory equipment have been provided to supplement the new dyeing range. The additional equipment has increased capacity of the finishing plant by one-third.

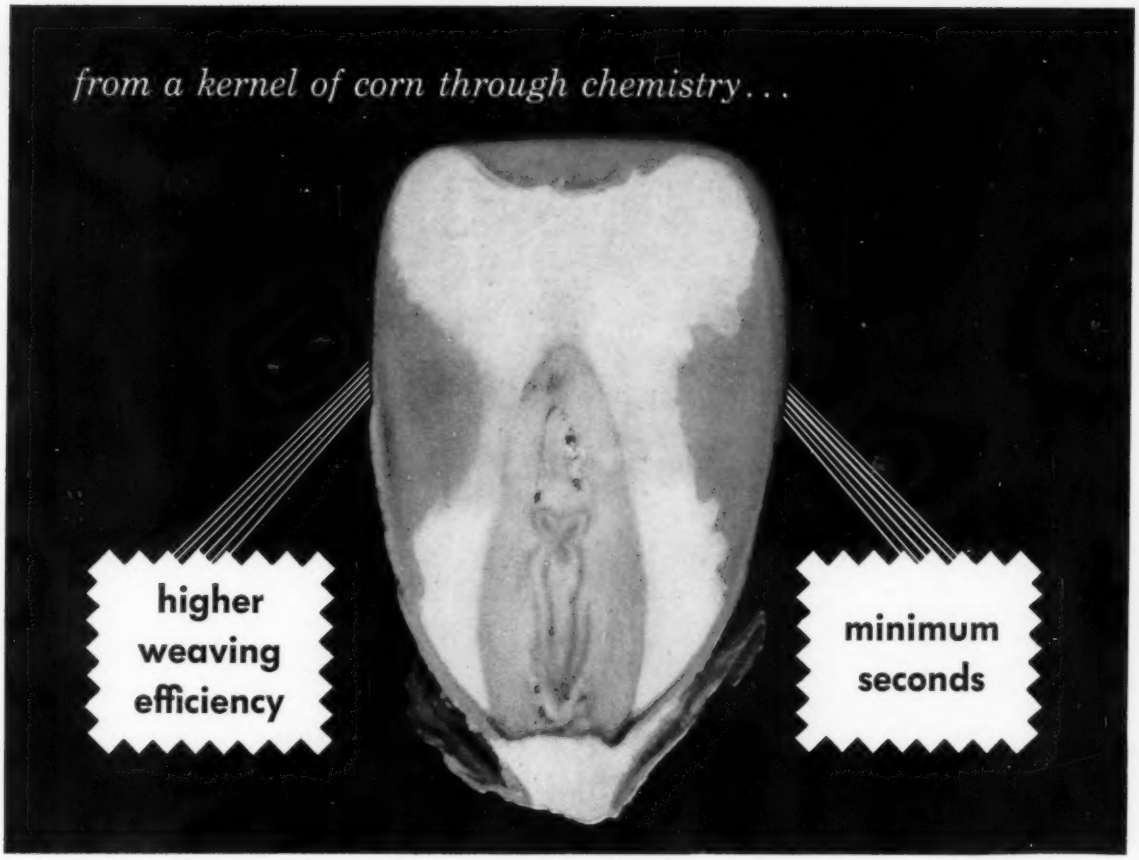
The Randolph Mills, Inc., Franklinville, N. C., is the surviving corporation following a recent merger which took in Locke Cotton Mills Co. of Concord, N. C. Long-range plans to increase flannel production have been announced.

Edward Krock Industries, Worcester, Mass., have purchased the real estate, machinery, and equipment of **Rhode Island Plush Mills,** Woonsocket, R. I.

Robison Rayon Co., Inc., of Pawtucket, R. I., has established a branch plant to make novelty twisted yarns in Montezuma, Ga. Dennis E. Shea, Jr., is resident manager, and Frank S. McClelland, Jr., is superintendent. The Georgia branch does not affect production at Robison's other plants.

Shuford Mills, Inc., Hickory, N. C., has further diversified operations by establishing a pressure sensitive tape plant headed by C. O. Pike, production manager. Tapes with paper backings are being manufactured at present, and plans for future production include plastic tapes, electrical tapes, and cloth tapes.

Effective Jan. 16, **Standard-Coosa-Thatcher Co.** started the liquidation of its Sauquoit Plant at Gadsden, Ala., which is being permanently closed on a "gradual and orderly basis" that will require several months. S. H. Harris, company president, explained that losses resulting from the cotton yarn mill's failure to operate satisfactorily for the past several years brought about the de-



NALEX®: a warp size for spun rayon and worsted yarns

NALEX is starch changed through chemistry. It is noncongealing. Because of this, Nalex improves penetration; prevents hard size; and forms stronger, more continuous films on spun rayon or worsted yarns.

The result?

Seconds are reduced. Efficiency is increased—even at low humidities.

NALEX is compatible with resins and synthetic binders. Highly recommended for sizing the new blends of natural and miracle fibers.

STARCHES **National** RESYNS®

STARCH PRODUCTS INC.

National Starch Products Inc., 270 Madison Ave., New York 16, N. Y. • Atlanta • Boston • Philadelphia
In Canada: National Adhesives (Canada) Ltd., Montreal

HOW SOUTHERN STATES COMPLETE COILERS AND CONVERSION UNITS CUT CARD ROOM OPERATING COST

Mill case histories prove over and over that Southern States coiler conversions pay for themselves in less than a year!

Adding up to lower operating costs and savings you can see are—larger cans with increased capacity . . . renewed life of old coilers, longer life of new coilers . . . lower maintenance costs . . . smaller parts inventories . . . simplified, more efficient handling . . . plus improved quality.

Recognizing that each mill is faced with different problems, Southern States has produced the most complete line of coiler and coiler conversion units available to the industry. Thus, regardless of sliver handling methods, or condition of existing equipment, Southern States makes it possible for your mill to enjoy all the advantages of larger cans at a price you can afford.

Complete details are in our Bulletin 201, which we'll send on your request. Better still, let our representative show how Southern States conversions can cut your card room costs.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

What the TEXTILE MILLS are doing

cision to close it.

A modernization program nearing completion by **J. P. Stevens & Co., Inc.,** includes an expenditure of approximately $1,100,000 for improvements at the Monaghan Plant in Greenville, S. C. Weaving equipment is being modernized and the spinning room is being air conditioned. At Greer, S. C., a new $100,000 warehouse is under construction at the Greer Plant, and at the Victor Plant preparatory equipment is being modernized and overhead cleaning equipment on spinning frames is being installed at a cost of about $300,000. * * * Improvements now in progress at the company's Rock Hill, S. C., mills include: replacement of 21,000 conventional spindles at the Aragon Baldwin Plant with long draft, large package spinning; also the installation of $300,000 worth of new dyeing and finishing equipment at the Industrial Plant. * * * **Patterson Mills Co., Rosemary Mfg. Co.,** and **Roanoke Mills Co.,** all at Roanoke Rapids, N. C., and formerly owned by the Simmons Co., have been purchased by J. P. Stevens & Co.

More than 18,000 silver dollars were distributed in pay envelopes of **Springfield (Tenn.) Woolen Mills Co.'s** employees recently for the purpose of showing in all channels of trade the importance of the company's employees in the economic affairs of the community.

An electronic data processing machine which will be utilized in many applications involving masses of complex data, including preparation of payrolls, cotton inventories, sales and order analyses, stock status daily accounting, parts and supplies records, general accounting, and research or production problems, is scheduled to be in operation in the offices of **The Springs Cotton Mills** early next year. According to the announcement, this is the first order placed by a textile manufacturer for equipment of this type.

Williamsport (Md.) Textile Mills, Inc., is a new narrow fabric weaving plant equipped with 22 looms and three dyeing machines. President and manager of the concern is I. J. Coran, who was previously associated with Federal Silk Mills in Williamsport. Harry Shank is superintendent.

SUPPLIERS News

WHAT THEY ARE DOING

W. Sheridan Huss has been appointed president of **Acme Steel Products Division, Acme Steel Co.,** to succeed John G. Bucuss, who retired the first of the year.

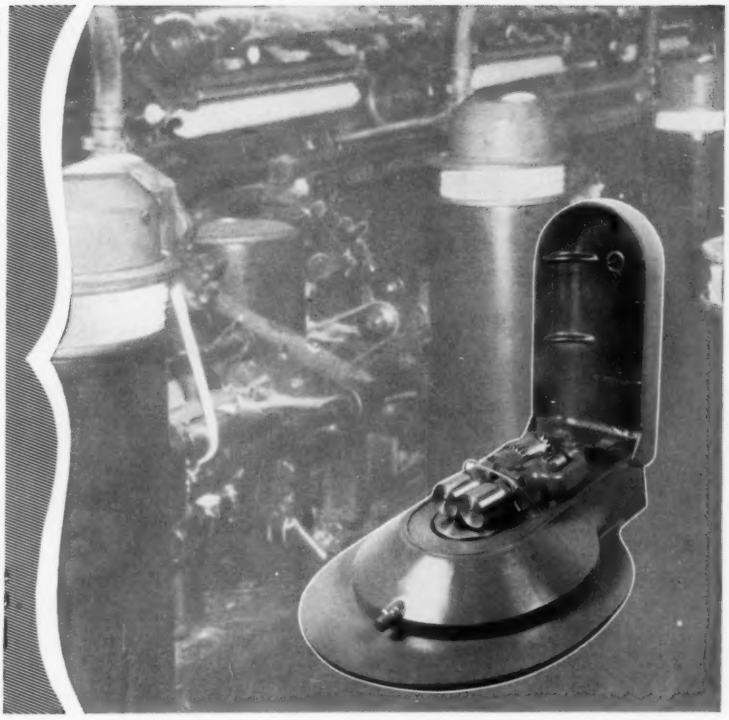
Allied Chemical & Dye Corp. is establishing enlarged sales and service offices for its "Caprolan deep-dye nylon" at 261 Madison Ave., New York 16, N. Y. Necessitated by the advent of full commercial production at the fiber plant at Hopewell, Va., the new quarters will be ready for occupancy in May. Part of the space leased will be used to relocate New York sales offices of the Barrett, General Chemical, and Solvay Process Divisions, which are now at 40 Rector St.

Recent personnel changes at **Allis-Chalmers Manufacturing Co.** include the election of Willis G. Scholl to executive vice-president. * * * New assignments in southern offices of the Allis-Chalmers group are: Nat C. Hughs, Jr., Tampa, Fla.; and Dale F. Romohr, Charleston, S. C.

An expanded sales engineering and service office in the Greenville, S. C., area has been announced by **Alvey Conveyor Manufacturing Co.** Known as the Easley-Burdette Agency, the expanded office provides the services of Curran S. Easley and Luther D. Burdette. New and more spacious offices for the agency have been opened in Suite 206, Masonic Temple Bldg., Greenville.

L. C. Pratt has joined the staff of **The American Brass Co.** as sales representative of the American Metal Hose Division, with headquarters at 161 Spring St., N. W., Atlanta, Ga.

A construction program to improve its research facilities at Bound Brook, N. J., has been announced by **American Cyanamid Co.** A new administration-laboratory building to be completed late this year will house research activities primarily related to the Organic Chemicals and Pigments Divisions, including research in the fields of textile resins, dyes, pigments, intermediates, and rubber



SOUTHERN STATES COILER HEADS MAKE CONVERSION TO LARGER CANS A SELF-PAYING PROPOSITION

Every mill man with an eye for ways to cut card room operating costs knows the advantages of larger cans. But what some don't realize is that Southern States conversions are so economical that they pay for themselves—a fact proved by case histories of mills throughout the country.

The Southern States Universal Coiler Head, illustrated above, is designed for either 14- or 15-inch cans. It is adaptable to any make of coiler. Using this head, intermediate gearing, coiler base and *your existing stand*, an inexpensive installation can be made in your mill.

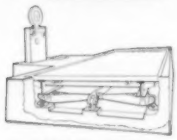
Then you can enjoy all of these advantages: simplified oiling; ease of maintenance; smaller parts inventory; more efficient handling; lower operating costs; and improved quality. The photograph shows the simplified design of this head. Notice the streamlined cover and bonnet. Cut tooth gears and oilite bearings are used throughout. It is precision built for years of satisfactory service.

Get full facts from your Southern States representative, or send your request direct to the home office for a quick reply.

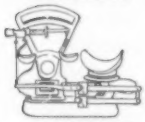
SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

For further information use Handy Return Card, Page 199

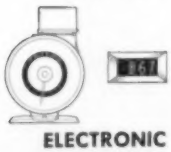
When you STUDY COSTS it pays to take a plant-wide look at WEIGHING



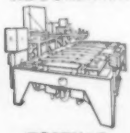
WEIGHING



COUNTING



ELECTRONIC RECORDING



TESTING

A MODERN WEIGHING SYSTEM can make a big difference in cost control and profit in your plant!

Are scales missing where needed? Are over-worked scales making bottle necks in your production? Are you losing material and time with scales misfitted to their jobs? In this day of highly specialized machines and methods, your scales should add up to a *Weighing System* . . . the right scales in the right places . . . supplying basic data for your accounting *system*. These records that originate at scales directly affect costs, inventories and customer billings. Weighing today is not a job for isolated scales—it's a vital part of your overall cost-control system.

If you would like to look further into this in your plant, why not drop us a line today? No obligation, of course. Ask for Booklet 2036. Toledo Scale Company, Toledo 1, Ohio.

SEND TODAY

TOLEDO®

HEADQUARTERS FOR SCALES

SUPPLIERS News — WHAT THEY ARE DOING

chemicals. * * * Samuel Klein, who retired recently as manager of the company's midwestern territory, has been succeeded in the Chicago office by Dr. E. I. Stearns. * * * Mead Board Sales, Inc., of Lynchburg, Va., and Sonoco Products Co. of Hartsville, S. C., have been appointed as manufacturers and sales agents for the American Cyanamid-developed paper pallet which can support a load up to 4,000 lb.

Samuel F. Adams has been promoted to the position of southern sales manager for **American Paper Tube Co.,** with headquarters at Calhoun Towers, Greenville, S. C.

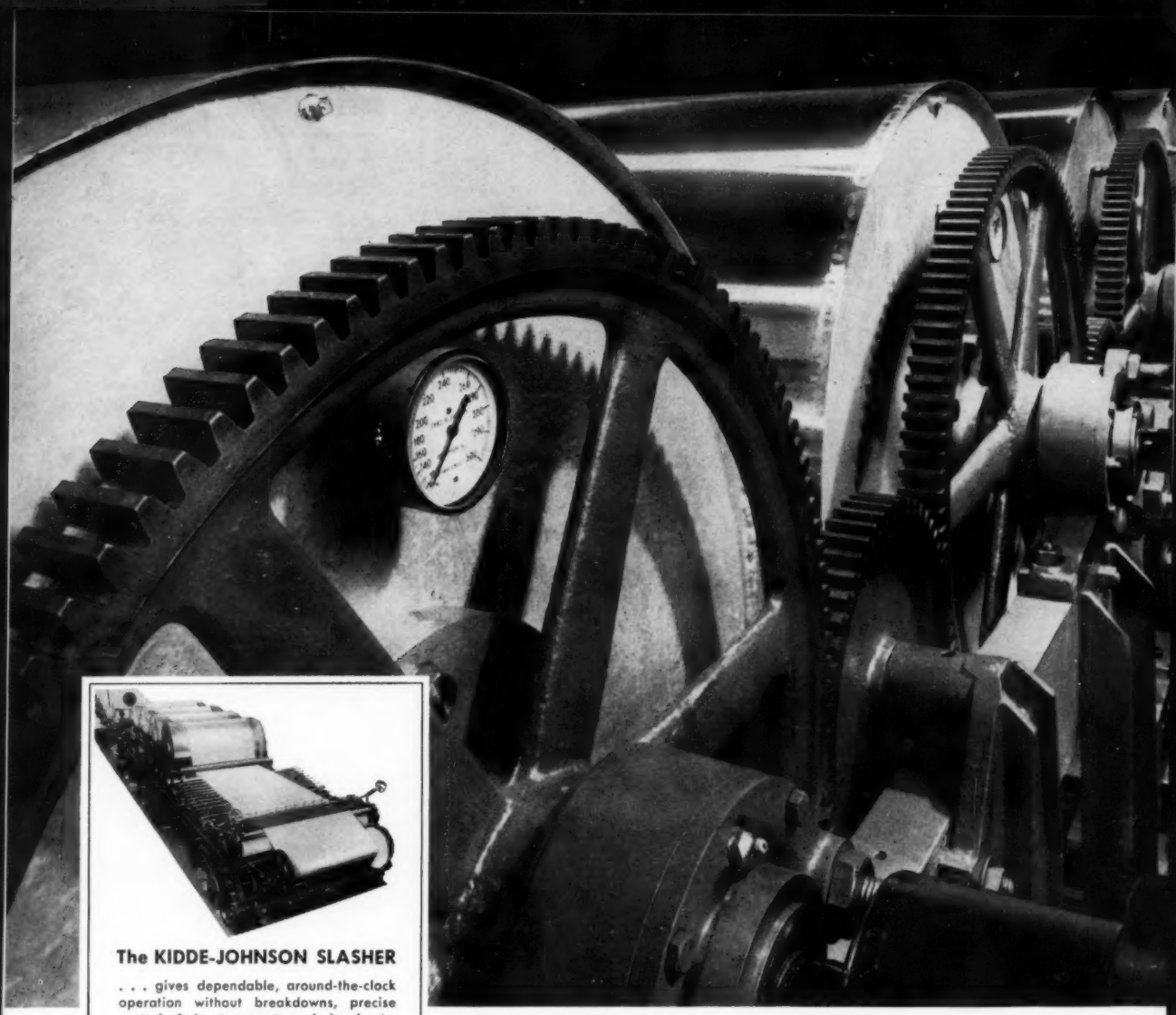
G. William Byers has been promoted to head of the weaving division of **American Viscose Corp.'s** textile research department in Marcus Hook, Pa. * * * The cellulose section of Avisco's research and development division has been reactivated under the leadership of Dr. Wayne A. Sisson for studies aimed at establishing basic principles of cellulose structure and behavior and relating these to present and future products. * * * Ernest Pfeiffer, formerly with Amerotron Corp., has joined the fabric development department as a senior technician in the New York office. * * * Bigelow-Sanford Carpet Co. has taken a license under Avisco's patent on crimped rayon staple fiber. Under the agreement, American Viscose was given a license, with rights to sublicense, a number of Bigelow-Sanford patents relating to carpets and their manufacture; these patents will be made available by Avisco to the industry.

Werner Andreasen, who was formerly associated with Coulter Co., has formed his own firm known as **Andreasen Company,** textile brokers, 10 East 39th St., New York 16, N. Y.

Robert C. Boulanger has been elected president of **The A & W Machine Co.,** following the resignation of Elmer C. Alix.

Replacing the late Paul Shultz as sales manager of the hosiery division of **Hans C. Bick, Inc.,** is George Mathues, who had been his assistant for the past eight years.

The Colson Corporation has intro-



The KIDDE-JOHNSON SLASHER

. . . gives dependable, around-the-clock operation without breakdowns, precise control of size temperature, drying heats, speeds and stretch. Available with 5, 7, 9 or more cylinders for either silk or cotton system warping or combinations of both.

The Kidde-Johnson Slasher is

geared for even warp tension

The smooth, steady operation of the KIDDE-Johnson slasher is built in part by part. The cylinder drive, for example: a sturdy, precision gear system, the drive keeps warp tension constant at the desired setting . . . needs a minimum of maintenance.

Every part of the KIDDE-Johnson slasher . . . from the stainless steel size box to the heavy-duty 20-inch friction beam drive . . . is built for rugged service. The result is a unit which will run for years and years with only routine preventive maintenance required.

Our free, 20 page brochure tells all about this famous warp-sizer . . . how and *why* it will eliminate the element of chance in your sizing. Write today for your copy. Address:

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS
BEAMERS • CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS

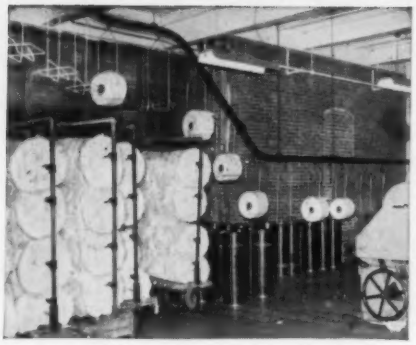
Kidde

MANUFACTURING CO., INC. — 42 FARRAND STREET — BLOOMFIELD, NEW JERSEY

SOUTHERN OFFICE — 267 W. MAIN ST., GASTONIA, N. C.

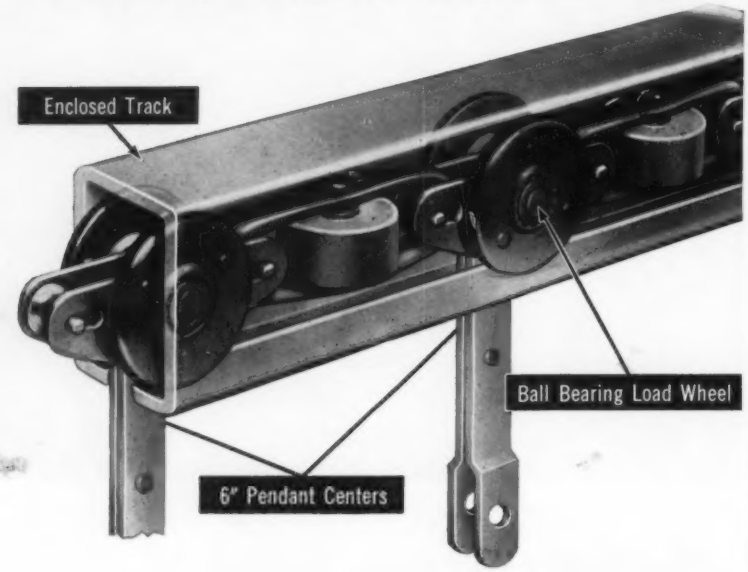
The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

R-W "Zig-Zag"®



Continuous Power Conveyor

SETS THE PACE FOR QUALITY, SAFETY, EFFICIENCY, ECONOMY



R-W ZIG-ZAG Conveyors offer safer, more efficient, more economical service. The ball bearing chain is fully enclosed for maximum safety and to keep dirt and dust from the moving parts.

ZIG-ZAG is extremely flexible in installation. Standard sections make it easy to conform to any specifications. The system may be expanded, altered or relocated by plant personnel, usually without waste of a single part.

ZIG-ZAG Conveyors carry materials up, down, in, out and around, like water through a pipe. With carrying pendants located on 6-inch centers, ZIG-ZAG can handle most any load required in light and medium industries. A choice of drive units permits travel at any required speed with variations of 10 to 1 or better.

Unlike most other conveyors, ZIG-ZAG can get down and back up again in minimum space due to its standard 2-foot radius vertical curves.

For complete information, write for catalog No. A-93-R.

1880 1956

SLIDING DOOR HANGERS & TRACK · FIRE DOORS & FIXTURES · GARAGE DOORS & EQUIPMENT · DOOR OPERATORS · INDUSTRIAL CONVEYORS & CRANES · SCHOOL WARDROBES & PARTITIONS

Richards-Wilcox Mfg. Co.

MATERIALS HANDLING DIVISION

Branches in Principal Cities

440 W. THIRD STREET, AURORA, ILLINOIS

SUPPLIERS News — WHAT THEY ARE DOING

duced a new line of industrial conveyors, which makes it possible for the company to now offer completely integrated material handling systems for almost any handling problem. Colson's sales force has been realigned to place experienced conveyor engineers in every territory. * * * The company has also announced the appointment of John M. Spooner as advertising and sales promotion manager.

Succeeding H. Seymour Colton who retired as president of the **Colton Chemical Co.** division of Air Reduction Co., Inc., is Bernard H. Krashin, formerly vice-president in charge of sales.

To better serve its clients **Commercial Factors Corporation** has set up a market research planning board, a special plant expansion service, and a department devoted entirely to public relations assistance. * * * The company recently announced the elevation of Walter M. Kelly to the presidency, succeeding Johnfritz Achelis, who was named chairman of the board.

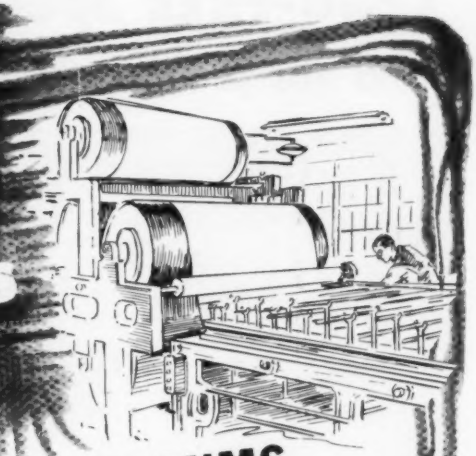
Corn Products Refining Co. has announced the election of E. F Schroeder as vice-president in charge of manufacturing, and A. N. McFarlane as vice-president and general sales manager. * * * William E. Hecht, advertising manager of Corn Products Sales Co., has been elected a vice-president.

H. E. Crawford Co., Inc., Kernersville, N. C., announces three personnel changes: J. H. Wells, formerly field representative, is now head of

Mr. Johnson **Mr. Fulton**

the pattern development work on the Crawford argyle knitter; Roy D. Johnson is field representative and service man to assist the mills in operation of the Crawford argyle knitter and argyle attachment; and Thomas A. Fulton has been appointed sales manager for the H. E. Crawford

Strength Flexibility Adhesiveness Clarity



these are the Properties PENFORD GUMS offer for improved warp sizing

The wide range of viscosities and the excellent weaving properties of Penford Gums make them desirable for warp sizing spun yarns. This includes combed cottons, viscose, viscose-acetate blends, hydrophobic fibers, blends of hydrophobic and other fibers, and worsted fibers.

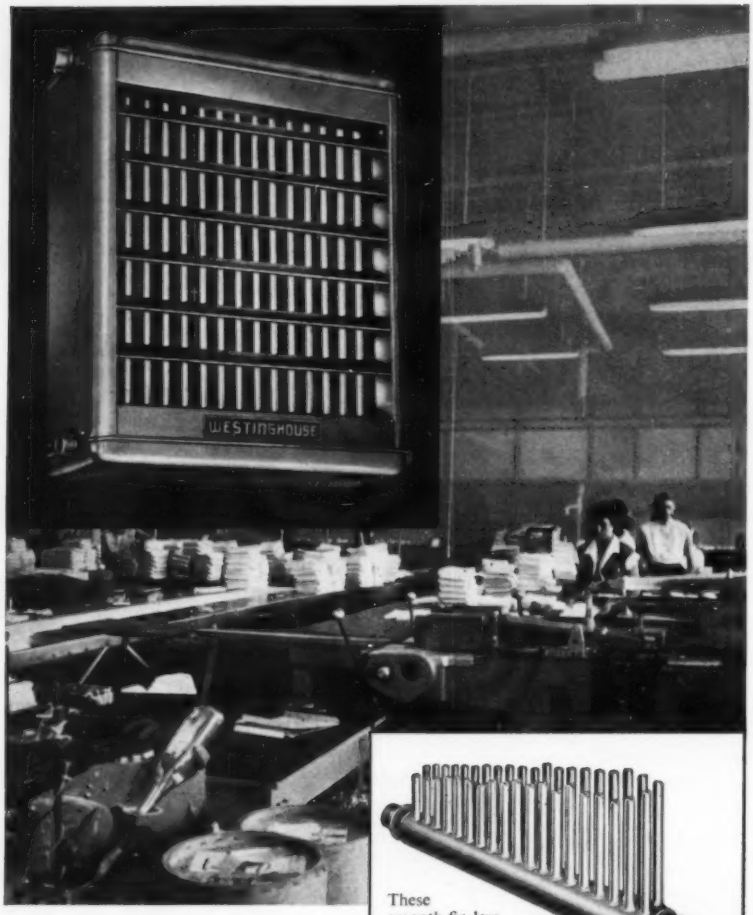
Penick & Ford has a staff of Technical Sales Service Engineers to give advice as to where and how Penford Gums are best suited to your process and to your equipment. PENICK & FORD, LTD., INC., 420 Lexington Avenue, New York 17, N. Y.; 1531 Marietta Blvd., Atlanta, Ga.; 18 California St., San Francisco 11, Calif.; Cedar Rapids, Iowa.

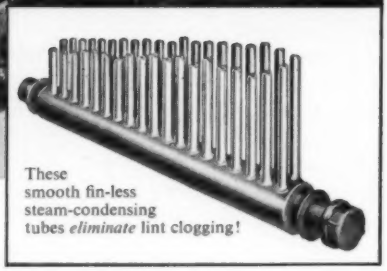
Penford Gums

(U. S. Patent Nos. 2,516,632; 2,516,633; 2,516,634)

This valuable brochure is available upon request. Send for your copy now.

CLOG-FREE Speedheaters
end lint problem in textile mills!





These smooth fin-less steam-condensing tubes *eliminate* lint clogging!

Quiet, efficient Westinghouse Textile Speedheaters assure you dollars and cents savings by:

- Eliminating lint and dust build up—with nonclogging heating element.
- Forcing heat when and where it is needed into working areas—no wasted BTU's.
- Saving fuel—because all the heat is directed where you want it.

For complete application service, call your Westinghouse Distributor or your nearest Sturtevant Division Sales Engineer . . . or write Westinghouse Electric Corporation, Department 7C, Hyde Park, Boston 36, Massachusetts.

WESTINGHOUSE AIR HANDLING

YOU CAN BE SURE...IF IT'S Westinghouse

J-80585

SUPPLIERS News
WHAT THEY ARE DOING

Co. and H. E. Crawford Mill Supply.

Dayton Rubber Co.'s industrial V-belt division in Dallas, Texas, has moved to new and larger quarters at 925 Slocum St. Head of the expanded operation is southwestern regional manager M. B. Roach.

Diamond Alkali Co. has announced the formation of two new divisions: (1) the Electro Chemicals Division, headed by Frank Chrencik, and (2) Soda Products Division, under management of Henry B. Clark. Chlorine and caustic soda are the principal products handled by the Electro Chemicals Division; and soda ash, bicarbonate of soda, and a host of special purpose products in which these are utilized are produced by the Soda Products Division. Both groups have assumed for their respective organizations all sales, research, and plant manufacturing activities. Manager of chlorine and hydrogen sales is Clayton M. Holt; manager of caustic soda sales is William L. McFadden. * * * W. B. Beeson, Jr., has been named New York-New England branch sales manager, succeeding Mr. Clark.

M. H. P. Morand has been made manager of coatings sales for **The Dow Chemical Co.**, with headquarters in Midland, Mich.

Walter M. Mitchell, vice-president and director of **Draper Corporation,** has been named director and chairman of the board of the Federal Reserve Bank of Atlanta, Ga.

D. G. Carmichael, formerly chief chemist for the textile service laboratory at **Eastman Chemical Products, Inc.,** is now chief consulting chemist of the company. In this capacity he advises the textile and chemicals divisions on the planning and executing of development programs concerned with textile processing, dyeing, and finishing. Also, Mr. Carmichael consults with the process and development laboratories of Tennessee Eastman Co. concerned with dye production and textile processing.

Engineered Plastics, Inc., Gibsonville, N. C., has appointed Rex P. Bennett of Honesdale, Pa., as representative in the Pennsylvania and New Jersey area.

(Continued on page 56)

New York City . . . where Dow caustic works for chemical manufacturers.

DOW

wherever you're producing

DEPENDABLE CAUSTIC SODA RESEARCH IS ASSURED FROM DOW

Dow is the one producer, you know, supplying caustic soda to industry everywhere. Wherever you produce, you're *sure* of getting rapid, dependable service from Dow.

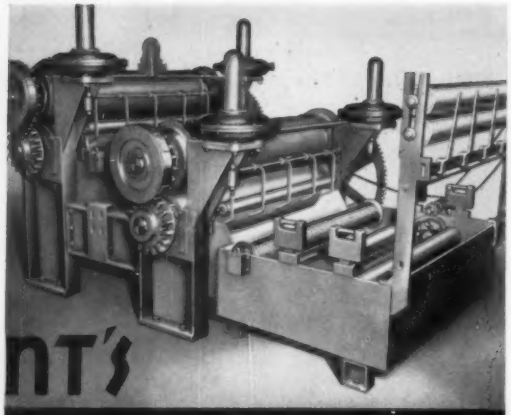
Continual Dow *research* on processing that involves caustic now . . . or will years from now . . . develops ways for you to do it better, faster, at decreased cost. This creatively practical planning helps you to improved, more uniform products to sell profitably in new markets.

Then, too—there's multiplant production, flexible delivery network, prompt field technical service. Does Dow have *your* order? THE DOW CHEMICAL COMPANY, Dept. AL 751F, Midland, Michigan.

you can depend on DOW CHEMICALS DOW

No More Broken Ends

SARGENT'S NEW DESIGN



BACKWASHER and BACKWASH DRYER

ANY FIBRE - ANY BLEND

For washing and drying sliver as it comes to the cards

•

For final washing of top before finisher gilling

•

For rinsing and setting of dyed top in ball form

Up to 48 three-ounce ends run through simultaneously — better than 700 lbs. hourly production of card sliver . . . SARGENT-designed so ends are threaded through more easily and quickly than ever before.

Switches on backwasher drives, dryer conveyor, and on gill box are synchronized to start and stop in unison, eliminating danger of broken ends.

Added ease of inspection of ends being dried . . . completely automatic, continuous operation throughout . . . remarkably simple to install, wonderfully easy to operate.

Want more information? Just write your nearest representative or write us direct. And ask for Bulletin No. 203

C. G. SARGENT'S SONS CORPORATION

Graniteville, SINCE 1852 Massachusetts

PHILADELPHIA 19 — F. E. Wasson, 519 Murdock Road
CINCINNATI 15 — A. L. Merrifield, 730 Brooks Avenue
CHARLOTTE, N.C. — W. S. Anderson, Carolina Specialty Co.
ATLANTA, GA. — J. P. Angel, Mortgage Guarantee Building
TORONTO, CAN. — Hugh Williams, 47 Colborne Street

SUPPLIERS News

WHAT THEY ARE DOING

(Continued from page 54)

The Fairbanks Company recently announced the appointment of William B. Ross as sales representative

Mr. Ross

in the Alabama-Tennessee territory. Mr. Ross has headquarters at the company's southern area branch office in Rome, Ga.

C. G. Gehringer has been promoted to the position of manager of the scale division of **Fairbanks, Morse & Co.** to replace George C. Worthley, who retired after 41 years with the company.

The Felters Company plans an expenditure of $350,000 for construction of a new plant to produce a new felt-like fabric known as "Allfab." A composition of textile fibers manufactured by a special process which involves the use of a resin binder, the fabric may find that its principal application will be as a filler for automobile vinyl upholstery interiors. A second important use will be as an insert in shoes. It is expected that full production will begin late in 1956.

Several hundred representatives of the textile, paper, leather and allied industries were present at the open house held upon completion of a new laboratory and office building by **Fabric Research Laboratories, Inc.** The new facilities, located at 1000 Providence Highway, Dedham, Mass., are part of a continuous expansion of the organization since its founding in 1942. * * * Myron J. Coplan is now assistant director of research.

The Fletcher Works, Philadelphia, Pa., was recently acquired by Edward T. Taws, who has assumed active management of the factory and foundry. Mr. Taws is president of the Pennsylvania Ribbon Manufacturing Co., which he plans to sell, and the Brinton Machine Co. Commenting on the acquisition of Fletcher Works, Mr. Taws said that he will begin at once to further engineer the Fletcher

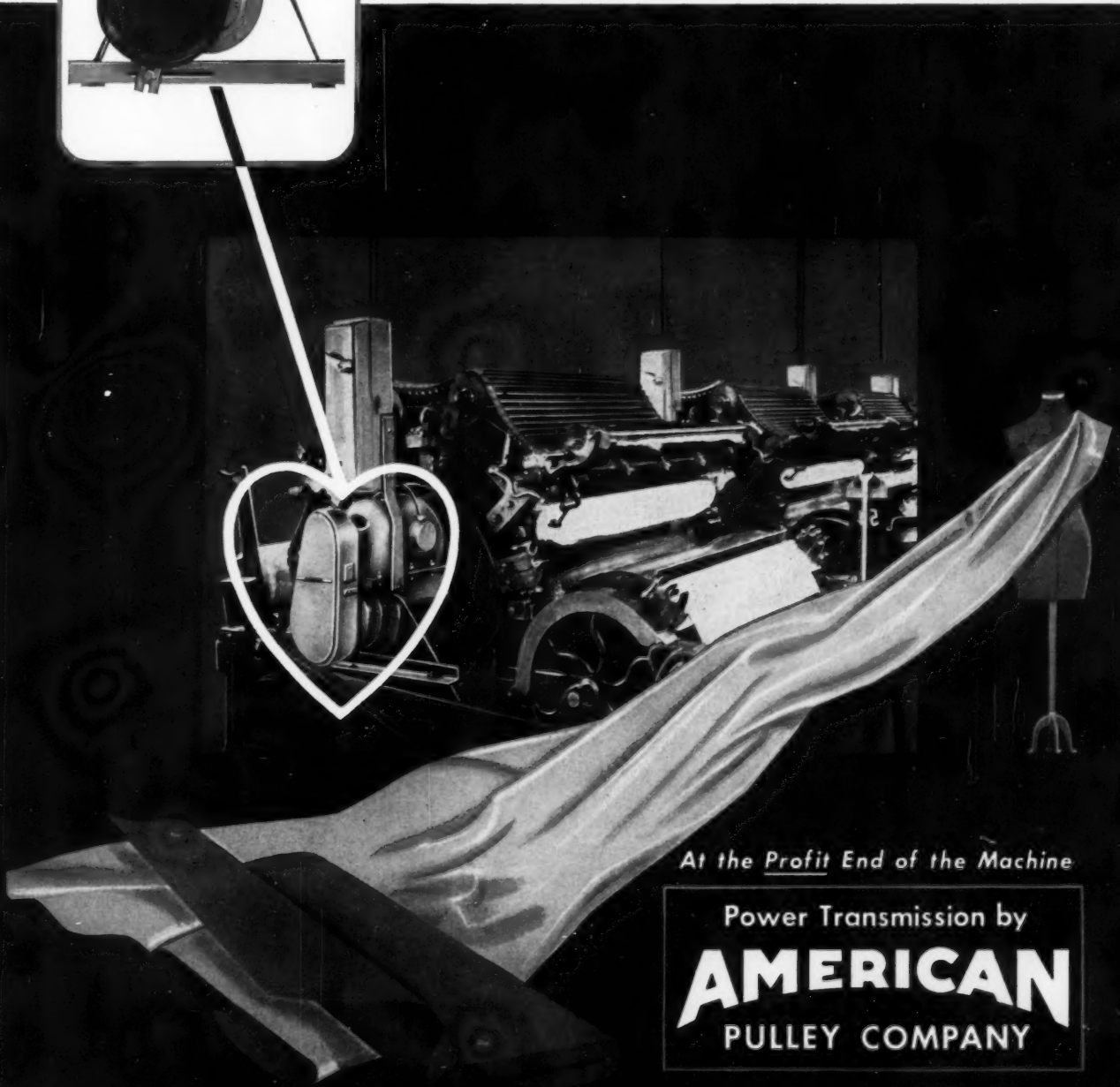
The American Individual Card Drive features a centrifugal clutch which brings the card up to speed in 45 seconds—permits hand stripping while card is coming up to speed—eliminates necessity of jogging. American Card Drives require no special motors or starting mechanisms, no expensive belting. One V-belt does the work of flat-belting costing about 15 times as much!

Heart of the Card...a shaft-mounted drive as modern as the newest "miracle" fabric

The American Individual Card Drive removes one obstacle to card room efficiency—line shafting, thus permitting better card room layout, better lighting and ventilation, and ending falling lint or fly. It improves quality, permits greater flexibilify of machine speed and allows you a 25% speed variation on each card for maximum production and peak quality of any fiber you process.

This American "packaged" drive is simply and compactly constructed, easy to install, and completely enclosed for safety. It mounts directly on the card cylinder shaft, requires no floor space, makes cleaning easier. American Card Drives prevent card-arch deflection and end the risk of shut-down from main drive failure.

If you're not already using American Individual Card Drives write for the complete story on their advantages or see your distributor. The American Pulley Company, 4232 Wissahickon Ave., Philadelphia 29, Pa.



At the Profit End of the Machine

Power Transmission by

AMERICAN

PULLEY COMPANY

machines to increase the speed and output so that higher quality narrow fabric can be made for much less than the present costs.

Recently appointed general sales manager of the container division of **Robert Gair Co., Inc.,** was Charles U. Harvey, with headquarters in the New York office.

H. M. Bailey, Jr., has resigned as sales manager of **Hartford Rayon Co.,** a division of Bigelow-Sanford Carpet Co., Inc. After an extended leave of absence he is expected to resume his association with the company as consultant to R. B. Freeman, vice-president for products. Sales activities of Hartford Rayon Co. continue with T. L. Leslie as head of the southern district, and G. R. McGrath in charge of the northern district.

The **Hemphill Company's** solid color diamond machine, British Patent No. 519,867, was chosen as one of the "notable inventions" for the decade 1930-1939 at a recent exhibition held in the Library of the United Kingdom Patent Office in London. The machine was the first completely automatic solid color argyle unit to be developed and patented anywhere in the world. It also received the "Modern Designs Award" from Design News Magazine.

Several sales office appointments have been announced by **The Foxboro Company.** E. W. Prendergast, formerly branch manager at Atlanta, has

Mr. Prendergast

been made regional manager for the southeast territory. R. F. Sutton has been transferred from Pittsburgh to Pensacola, Fla., as industrial engineer. Other industrial engineers with new assignments are: F. J. Stevens, Jr., Lakeland, Fla.; H. C. Craig, Jacksonville, Fla., branch manager; and L. C. Estes, Atlanta branch. G. W. Reed, Jr., has been named manager of the New Orleans office, and J. K. Younkins, manager at Charleston, W. Va. Recently joining the company as industrial engineers were W. H. Rhyne, Chattanooga, Tenn.; T. A. Jones, Charlotte, N. C.; and M. N. Walker, Knoxville, Tenn.

Robert W. Hunt Co. has announced the opening of an independent textile and cordage testing laboratory at its headquarters in Chicago. A new member of the staff is O'Neil Nelson, who had been with the United States Testing Co. for 28 years prior to discontinuance of its Chicago laboratories.

Walter A. St. Clair, formerly mid-central district manager, has been promoted to assistant sales manager of **Hyster Company's** Eastern Industrial Truck Division, with headquarters at Danville, Ill. * * * Ernest G. Swigert, president of Hyster Company, has been elected national vice-president of the National Association of Manufacturers.

Peter M. Shonk has been appointed

(Continued on page 210)

NON-FLUID OIL
TRADE MARK REGISTERED

WILL STOP CLOTH SPOILAGE

Unchecked loss from oil spots cuts deeply into production. Seven out of ten mills eliminate this loss by using NON-FLUID OIL—the drip-less, waste-less lubricant.

Saving its own cost many times over by preventing oil spot damage—NON-FLUID OIL also saves on lubricant and application cost—by outlasting ordinary oil 3 to 5 times—saving on maintenance as well.

We recommend Grade A-#00000 NON-FLUID OIL for general lubrication of looms because it is made for this specific purpose. Write for Bulletin T-20 and free testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT COMPANY
292 MADISON AVE., NEW YORK 17, N. Y.
WORKS: NEWARK, N. J.
So. Dist. Mgr.: Lewis W. Thomason, Jr. Charlotte, N. C.
WAREHOUSES
Birmingham, Ala. Greensboro, N. C.
Atlanta, Ga. Greenville, S. C. Detroit, Mich.
Columbus, Ga. Chicago, Ill. Providence, R. I.
Charlotte, N. C. Springfield, Mass. St. Louis, Mo.

1896 60 YEARS 1956 SIXTY YEARS OF LUBRICATION SERVICE TO INDUSTRY NON-FLUID OIL

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

CORN PRODUCTS REFINING COMPANY

presents

A COMPLETE LINE

of

STARCHES, GUMS & DEXTRINES

Highly recommended for their superior uniformity, stability and cleanliness

GLOBE® BRAND CORN STARCHES

Ideal where a thick boiling starch is required for use in homogenizers. Always uniform, always clean, Globe Pearl Corn Starches produce strong films, reducing breaks on the slasher and on the loom. For backfilling, Globe brand extra thick starches produce a smooth, lardy paste.

NEW TEN-O-FILM® STARCHES

A new line of starches which are gaining wide use where set-back is a factor in slashing. Ten-O-Film resists gelation when temperatures fall. Despite prolonged heating and circulating, these starches maintain their viscosity, provide high film strength. Cooks quickly, desizes readily.

EAGLE® BRAND CORN STARCHES

For warp sizing carded and combed yarns. These thin-boiling starches produce a uniform size mixture which penetrates the yarn evenly. Where you want more weight of size, or thicker size film, try an Eagle brand starch. Available in a full range of fluidities to fit every need.

HERCULES BRAND CORN STARCHES

These oxidized starches produce a smooth, tough and clear film ideal in finishing.

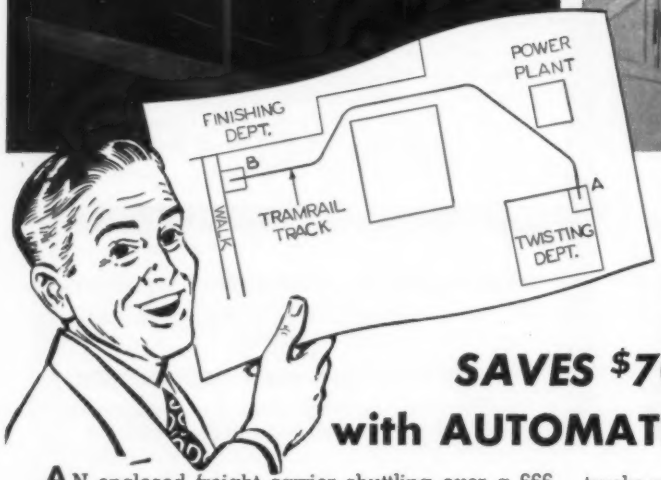
GLOBE® GUMS AND DEXTRINES

Widely used in warp sizing for spun rayon, blends and synthetics; warps desize readily.

TAKE ADVANTAGE of our free technical service. Our lab and field experts will welcome the opportunity to help you with actual production problems. Write us today.

1906 • **50th ANNIVERSARY** • 1956
CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.

A load is on its way. Travel time is 4 to 5 minutes one way. The track is approximately 28 feet above ground level.



Four trucks are accommodated by the Tramrail freight van, which, at the press of a button, is on its way without attendant. The van stops and lowers automatically at each end of the system. In fair weather or foul it travels with safety and dispatch. Points on each end of Tramrail carrier guard pry open doors of loading station automatically. The system requires very little building space because it need not be enclosed.

SAVES $7000 PER YEAR with AUTOMATIC DISPATCH SYSTEM

AN enclosed freight carrier shuttling over a 666 foot Cleveland Tramrail archbeam track between the Twisting and Finishing Departments of the China Grove Cotton Mills Co., China Grove, N. C., is saving $7000 per year.

This system has eliminated a drudgery that was disliked by labor and costly to management. No longer is it necessary for men to push and lug floor trucks up ramps, on elevators and over long walks between the buildings. No longer is the work held up because of rain or inclement weather. Frequent accidents from manual hauling are done away with.

For the investment involved, this automatic system is paying large dividends in profits and convenience for this mill which is one of the largest producers of thread yarn in the South.

GET THIS BOOK!

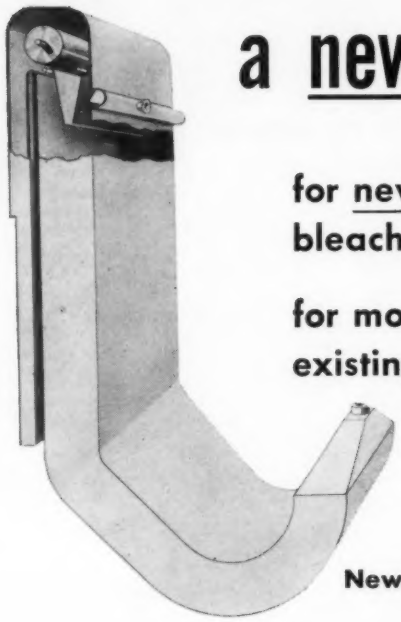
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
2873 East 287th Street, Wickliffe, Ohio

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

For higher-quality bleaching . . .

Du Pont announces a new J-Box



for new continuous peroxide bleaching systems or . . .

for modernization of existing installations

New design features of J-BOX give you:

1. **HIGHER QUALITY**—Chances for mechanical damage are reduced since cloth handling is reduced to a single draw roll and a simplified piling mechanism.
2. **HIGHER EFFICIENCY**—Greater, more uniform heating of cloth, made possible by new-type heating chamber.
3. **GREATER ECONOMY**—Simplified design permits easy and economical installation in new systems or replacement in existing systems.
4. **LOWER MAINTENANCE COSTS**—With the new J-Box, rope systems have fewer moving parts. Steam distributors and cloth heaters are simplified. In open-width systems, the draw roll is often the only moving part in the J-Box.

DU PONT'S new compact one-step single-stage peroxide system enables you to maintain present production levels with half the equipment, half the floor space . . . or double production without additional equipment. Cloth distortion and abrasion from handling are minimized, and savings of up to 50% in labor, steam, water and power are quickly realized. And all this is backed up by readily available Du Pont Customer Service.

For complete information on this new Du Pont J-Box, call the Du Pont technical representative nearest you.

Du Pont does not build or sell bleaching equipment. New-type J-Boxes can be obtained from a number of leading equipment manufacturers.

E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware

DU PONT PEROXIDES

ALBONE® hydrogen peroxide, 35% and 50%

PERDOX® sodium borate perhydrate

SOLOZONE® sodium peroxide

Sodium perborate tetrahydrate

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

IN CHARLOTTE
Call J. L. Moore
FRanklin 5-5561

IN BOSTON
Call M. H. Rowe
HAncock 6-1714

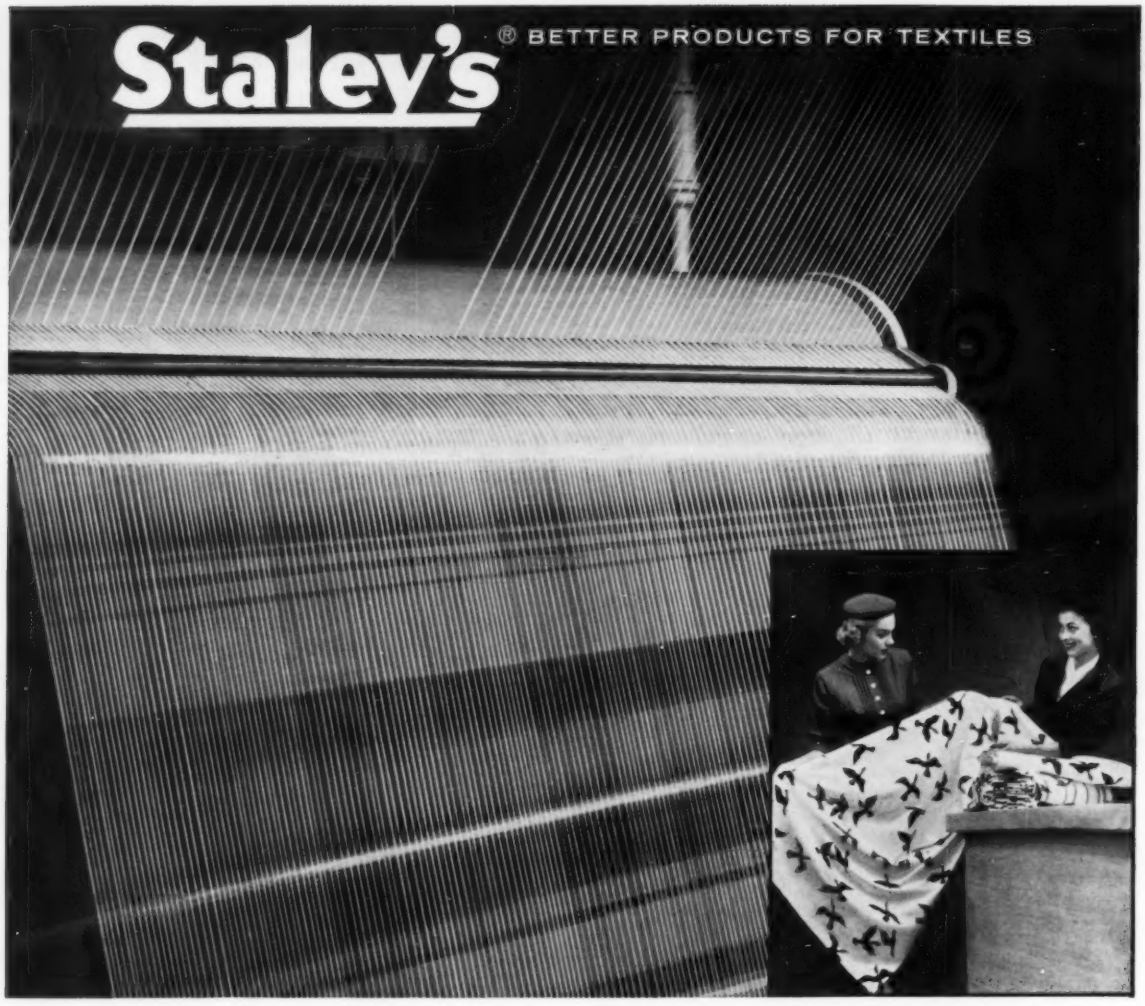
IN NEW YORK
Call R. A. Secord
LOngacre 3-6440

IN PHILADELPHIA
Call G. A. Lunger
Kingsley 5-1900

Call

these Du Pont textile specialists. They can give you expert help with any immediate bleaching problem. No obligation.

Staley's® BETTER PRODUCTS FOR TEXTILES



Higher weave-room efficiency...higher profits with Staley's Eclipse Sizing Starches

Southern textile mill cuts costs . . . boosts output with an assist from Staley's technical staff

Low weave-room efficiency was stealing profits from this mill at a fast rate. End breakage in the loom caused dollar loss in machine downtime, lost man-hours, and disruption of production and delivery schedules.

The problem was given to a Staley Technical Sales Representative. After checking conditions carefully, he recommended Staley's Eclipse Starch as a more effective sizing starch, and suggested several changes that would give plant operators closer control over production.

When his recommendations were put into practice, the results were excellent. Weave-room efficiency jumped . . end breakage was cut to a minimum . and orders were filled on time. This success is *not* unusual. Your expert Staley Technical Sales Representative can help you solve the problems that are stealing your profits. See him now.

A. E. Staley Manufacturing Company, Decatur, Illinois

Branch Offices: Atlanta · Boston · Chicago · Cleveland · Kansas City · Philadelphia · New York · St. Louis · San Francisco

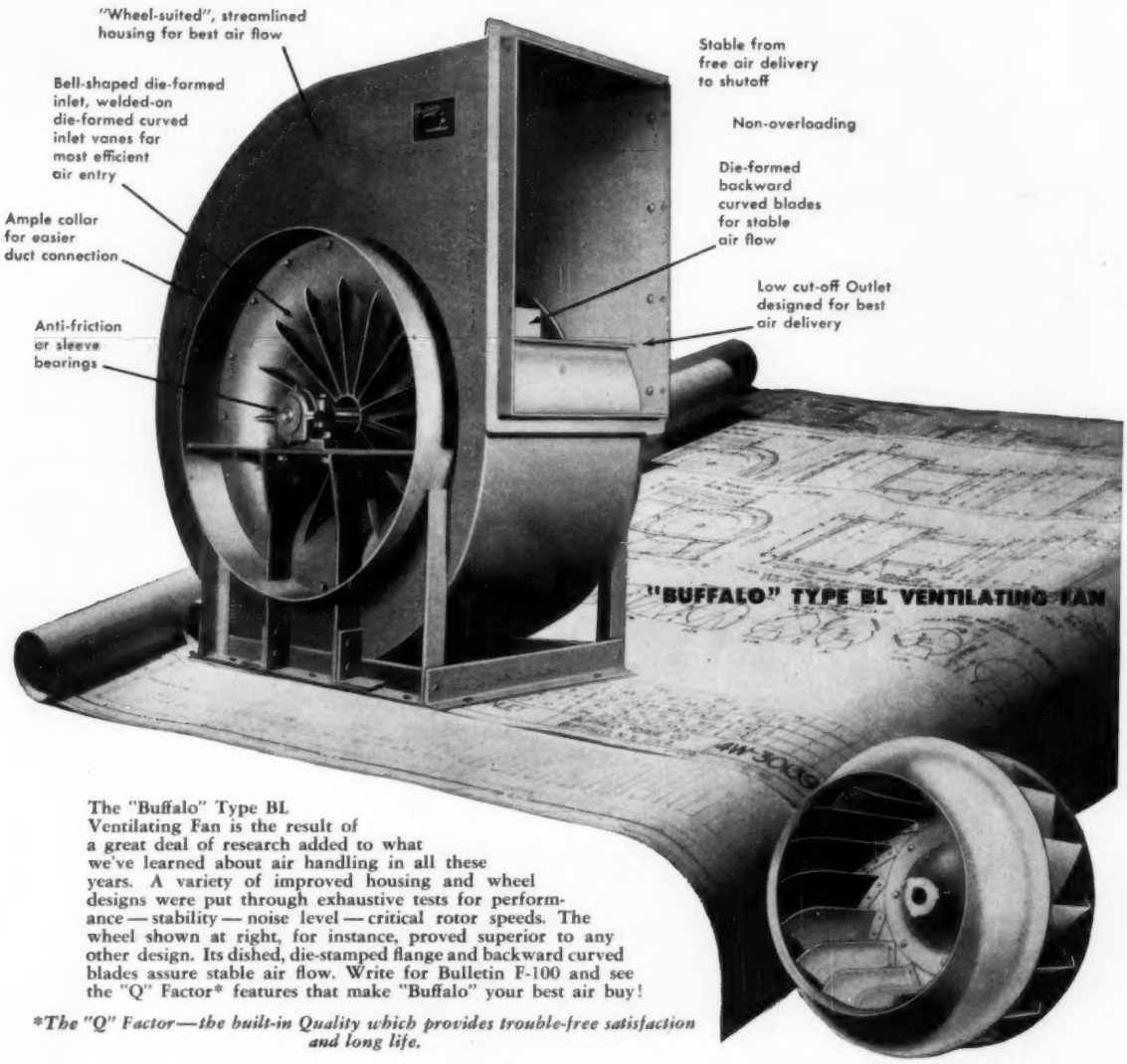
PRODUCTS FROM CORN Staley's AND SOYBEANS

QUALITY TEXTILE PRODUCTS

Dextrins
Pearl Starches
Thin Boiling Starches
Oxidized Starches

The Best of Our 79 Years

OF FAN ENGINEERING ARE IN IT!


"Wheel-suited", streamlined housing for best air flow
Bell-shaped die-formed inlet, welded-on die-formed curved inlet vanes for most efficient air entry
Ample collar for easier duct connection
Anti-friction or sleeve bearings
Stable from free air delivery to shutoff
Non-overloading
Die-formed backward curved blades for stable air flow
Low cut-off Outlet designed for best air delivery
"BUFFALO" TYPE BL VENTILATING FAN

The "Buffalo" Type BL Ventilating Fan is the result of a great deal of research added to what we've learned about air handling in all these years. A variety of improved housing and wheel designs were put through exhaustive tests for performance — stability — noise level — critical rotor speeds. The wheel shown at right, for instance, proved superior to any other design. Its dished, die-stamped flange and backward curved blades assure stable air flow. Write for Bulletin F-100 and see the "Q" Factor* features that make "Buffalo" your best air buy!

**The "Q" Factor—the built-in Quality which provides trouble-free satisfaction and long life.*

"Buffalo"

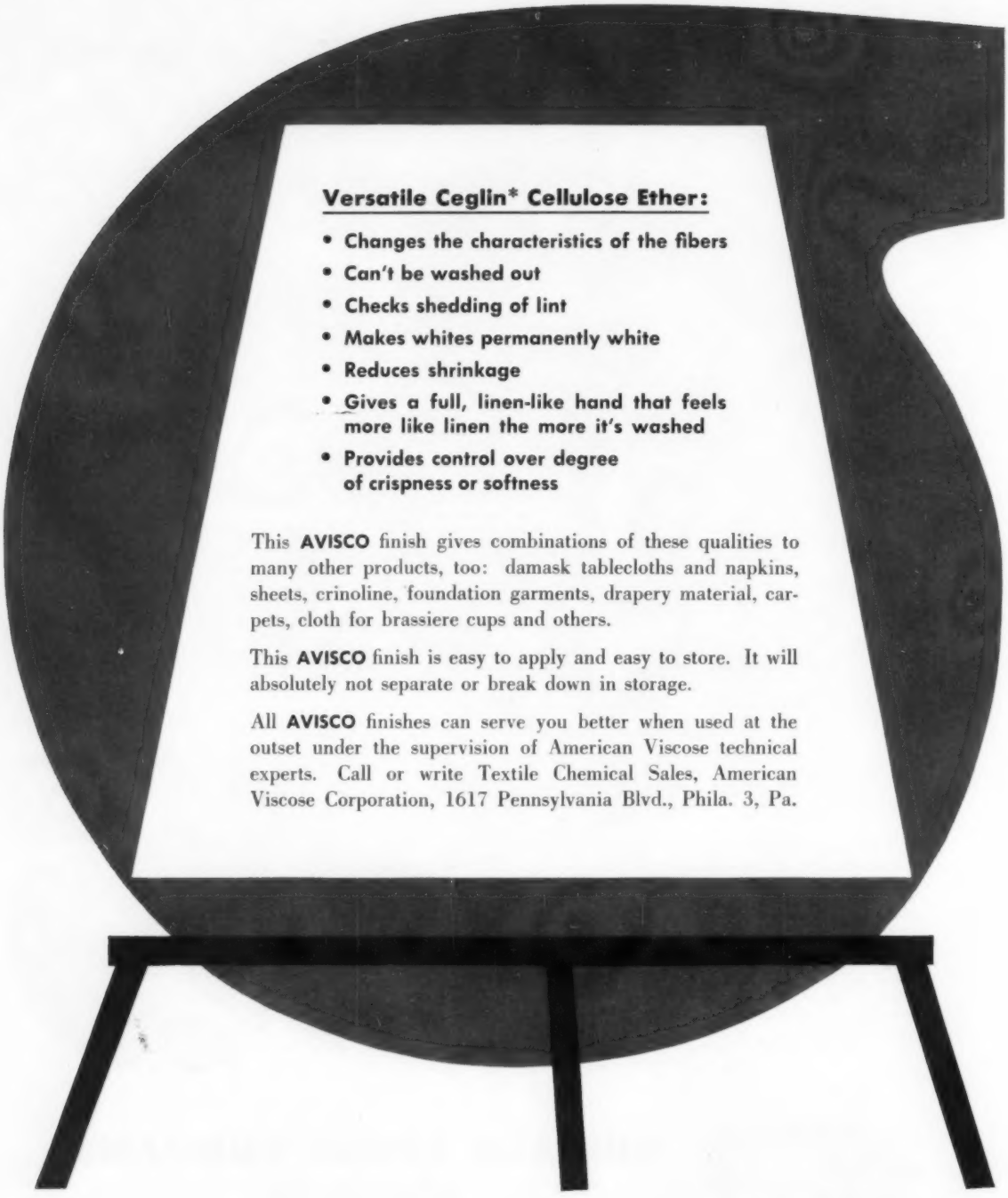
BUFFALO FORGE COMPANY

BUFFALO, NEW YORK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

AVISCO* finishes add



Versatile Ceglin* Cellulose Ether:

- **Changes the characteristics of the fibers**
- **Can't be washed out**
- **Checks shedding of lint**
- **Makes whites permanently white**
- **Reduces shrinkage**
- **Gives a full, linen-like hand that feels more like linen the more it's washed**
- **Provides control over degree of crispness or softness**

This **AVISCO** finish gives combinations of these qualities to many other products, too: damask tablecloths and napkins, sheets, crinoline, foundation garments, drapery material, carpets, cloth for brassiere cups and others.

This **AVISCO** finish is easy to apply and easy to store. It will absolutely not separate or break down in storage.

All **AVISCO** finishes can serve you better when used at the outset under the supervision of American Viscose technical experts. Call or write Textile Chemical Sales, American Viscose Corporation, 1617 Pennsylvania Blvd., Phila. 3, Pa.

GROW WITH AVISCO*

sales appeal to cotton textiles

*Avisco and Ceglin are trademarks of the American Viscose Corporation

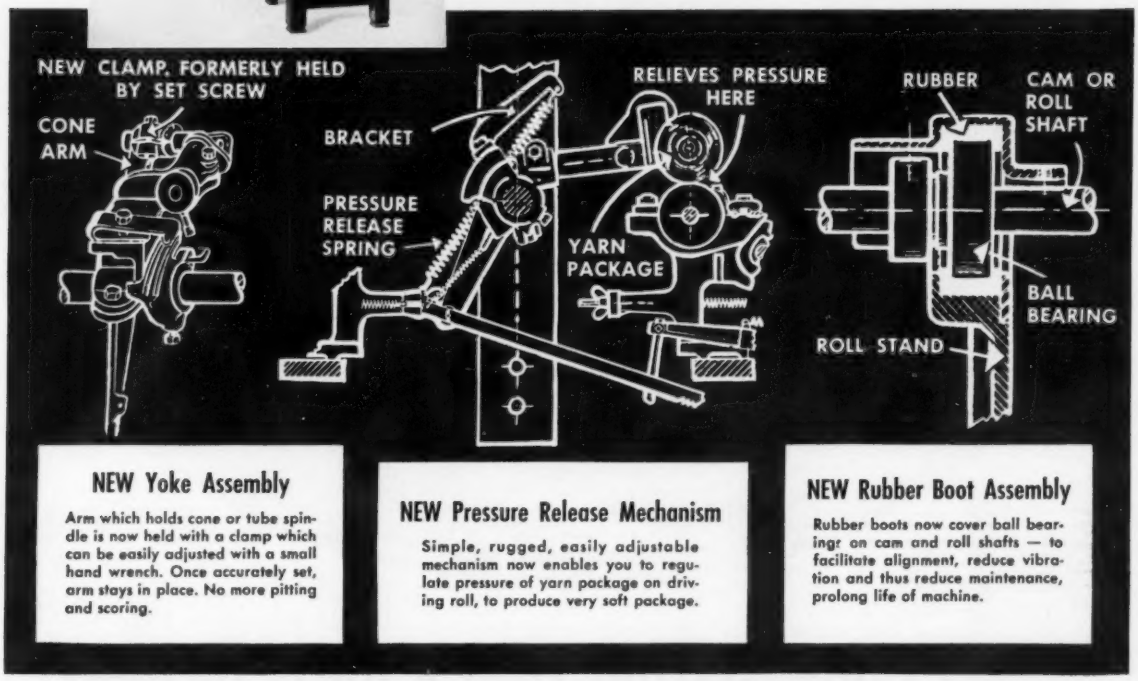
TEXTILE CHEMICALS

Every new fiber developed brings to the textile plant both opportunities and problems. New physical characteristics of the fibers usually require changes in processing equipment. Hundreds of variations have been made in Herr Flyers to accommodate the new yarns. Many special Herr Conical Ring and Traveler combinations have been produced. If you have a spinning or twisting problem — Let us help you.

HERR Manufacturing Company, Inc.
310 Franklin St., Buffalo, N. Y.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

FOSTER
MODEL 102 WINDER



NEW Yoke Assembly

Arm which holds cone or tube spindle is now held with a clamp which can be easily adjusted with a small hand wrench. Once accurately set, arm stays in place. No more pitting and scoring.

NEW Pressure Release Mechanism

Simple, rugged, easily adjustable mechanism now enables you to regulate pressure of yarn package on driving roll, to produce very soft package.

NEW Rubber Boot Assembly

Rubber boots now cover ball bearings on cam and roll shafts — to facilitate alignment, reduce vibration and thus reduce maintenance, prolong life of machine.

Foremost in Flexibility — Continuously Modernized

The Foster Model 102 produces cones with increased taper, assuring free delivery at the knitting machine. It was first to produce the open wind cones most suitable for knitting and will wind any type or count of spun yarn . . . will provide 9 different angles of wind from 9° to 18°, just by changing a few gears . . . can be readily equipped with a conditioning attachment . . . will produce a variety of cone tapers . . . will wind dyed yarn even when damp . . . can be built to wind 6″ or 7″ traverse knitting cones, warping cones, parallel tubes or dye packages — or short traverse cheeses.

Outstanding flexibility has made the Foster Model 102 preferred choice for many purposes for years. It holds its pre-eminence because our policy of continuous modernization constantly improves on its overall efficiency and its already long life expectancy . . . though improvement on some features may be impossible. A few relatively new improvements are illustrated herewith.

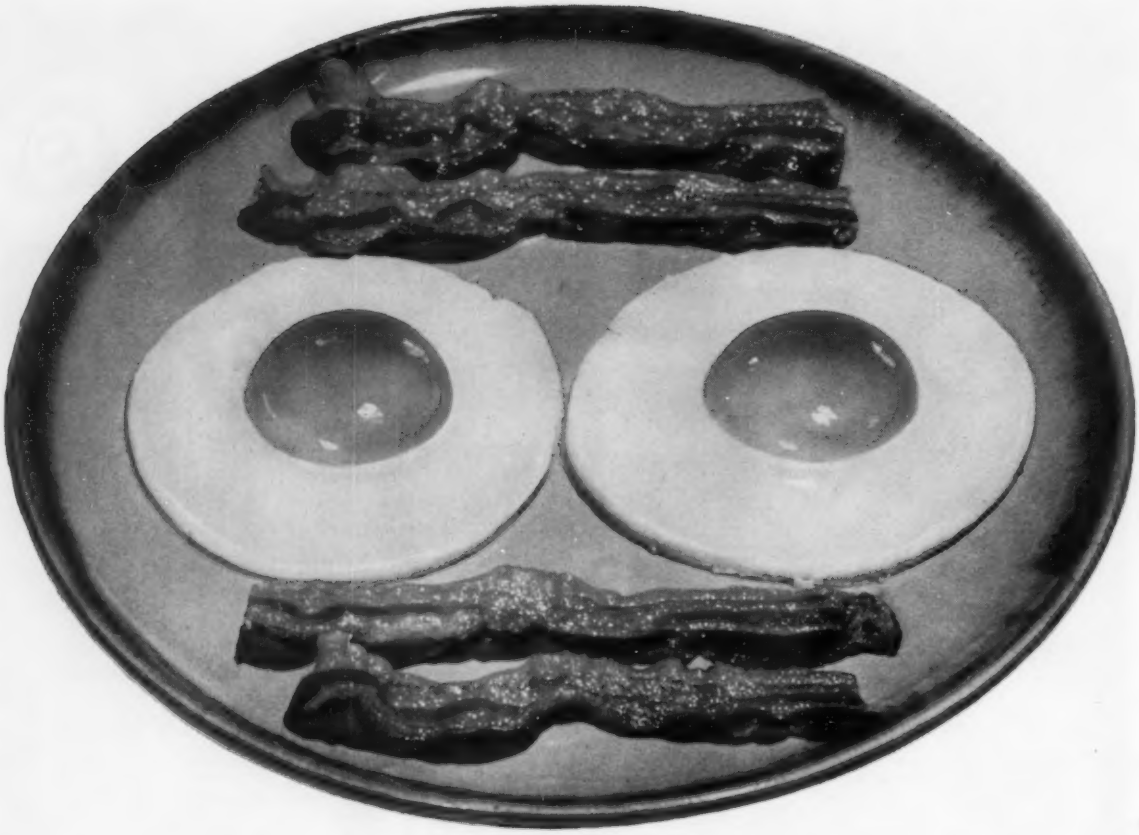
Send for Bulletin A-95.
Complete data — no obligation.

FOSTER MACHINE COMPANY

Westfield, Massachusetts, U.S.A.
Southern Office, Johnston Bldg., Charlotte, N. C.

Canadian Representative — Ross Whitehead & Company, Limited, 1475 Mountain St., Montreal, Que. and 35-37 King St., Toronto, Ont.

European Representative — Muschamp Textile Machinery Limited, Keb Lane Bardsley, Oldham, England



. . . a combination that's hard to beat!

Laminated plastics . . . for a combination of properties that *can't* be beat

SYNTHANE is a favorite material among engineers, designers, and product-conscious executives because it possesses a combination of many properties. It is light in weight, strong; has high dimensional stability, excellent electrical properties and chemical resistance. It's also easy to fabricate.

Synthane is a natural for textile bobbins. It is hard, dense and super-smooth . . . won't snag fine yarns. Synthane is strong and tough and can take rough handling. It is dimensionally stable and can be machined to close tolerances. Because of their inherent light weight, Synthane bobbins start and stop quickly and easily.

Property combinations! Synthane has them . . . in over 30 individual grades . . . sheets, rods, tubes, moldings and completely fabricated parts. Send for free illustrated catalog today.

EASILY MACHINED

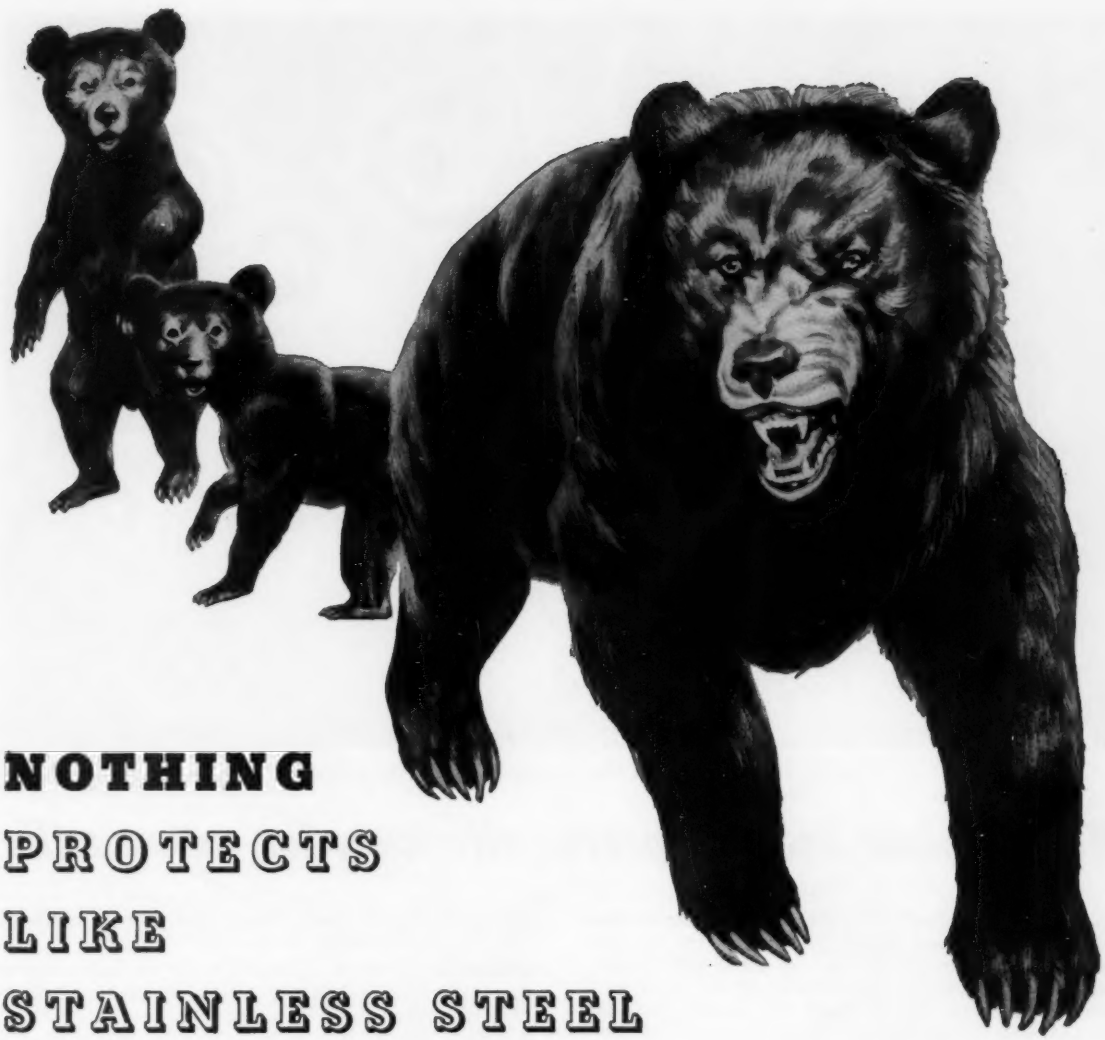
DIELECTRIC STRENGTH

TENSILE STRENGTH

CHEMICAL RESISTANCE

SYNTHANE

SYNTHANE CORPORATION, 9 RIVER ROAD, OAKS, PA.



NOTHING PROTECTS LIKE STAINLESS STEEL

Write for your Copy:

AL STAINLESS STEEL Report to the Textile Industry

40 pages of useful information on the applications and advantages of stainless steel in textile plant equipment of all types. Well illustrated—also contains a technical section of data on selection and fabrication, etc.

ADDRESS DEPT. TI-75

In the world of products and equipment, just as in Nature, *protection* is the difference between a long life and a too-early end.

Many materials are good-looking. Some are strong. Some resist corrosion. But not one other commercially-available material offers the same combination of beauty, high strength, high hardness and resistance to corrosion, heat and wear that stainless steel can give you. Not one has the ability to protect as completely, last as long and cost you as little in the long run.

These qualities in AL Stainless Steel can boost the salespower of a product, or cut the operating costs of equipment—often with little or no increase in first cost. Very likely *you* have problems where these advantages can bring you benefits. Let us work with you. ***Allegheny Ludlum Steel Corporation, Oliver Bldg., Pittsburgh 22, Pennsylvania.***

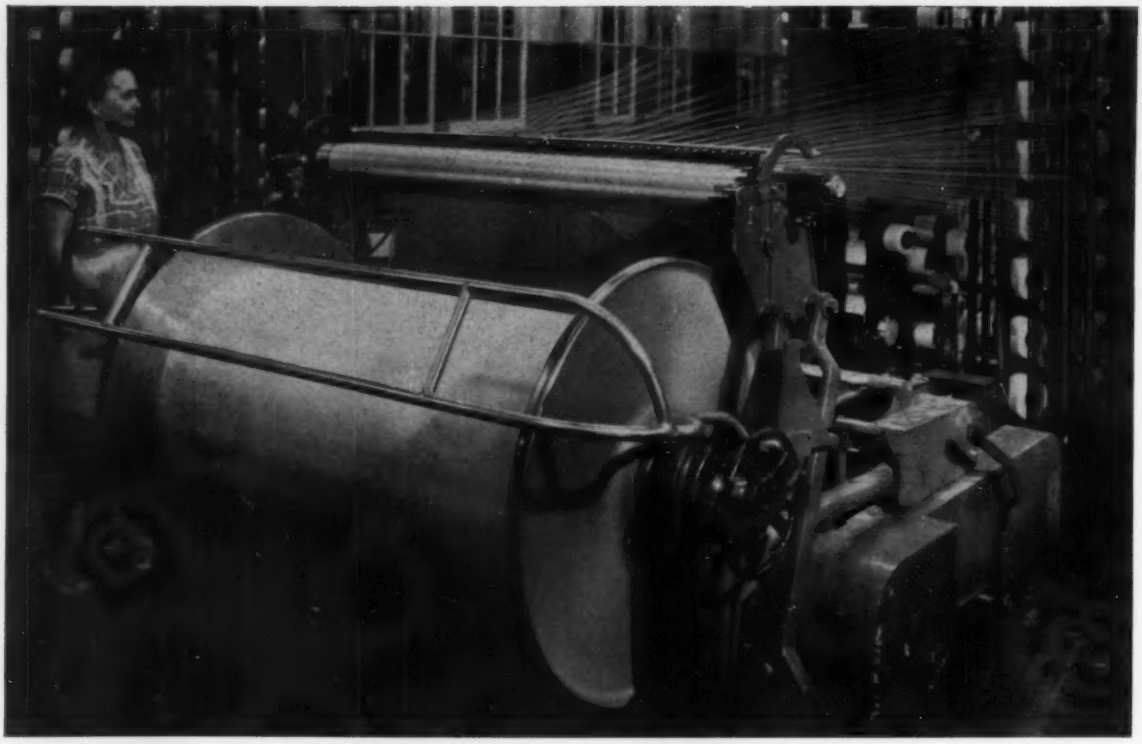
W&D-5439C

For Stainless Steel in ALL Forms—call

Allegheny Ludlum

AL STAINLESS STEEL

Warehouse stocks carried by all Ryerson Steel plants



Picture by courtesy of Laurens Mills, for whom Deering, Milliken is selling agent.

HAYES giant beam improves efficiency for cotton mills

Here is the new giant 38" x 54½" Aluminum Section Beam for cotton and spuns! This beam, for the first time in the textile industry, is now going into leading cotton mills to *improve their efficiency, cut costs,* and *increase profits.* One of these 38" beams does the work of two 28" beams, — saving one-half the handling time.

LIGHTWEIGHT—207 lbs.

CAPACITY—Net weight of yarn 1050 lbs.

SMOOTH and TRUE-RUNNING — No splintering, no distortion due to atmospheric changes, throughout the life of the beam. Insures better warps.

BALANCE—Beam is balanced at Hayes Industries to run up to 1000 yards per minute without objectionable vibration.

REDUCES COST—You *handle* half as many beams for the same production. Simple assembly for low maintenance cost should damage ever occur. Beams shipped knocked down to reduce shipping costs and storage space.

ADAPTABILITY—Fits all current types of warpers.

Send Coupon Today For Complete Information

HAYES INDUSTRIES, INC.
JACKSON, MICHIGAN

THE WORLD'S LARGEST PRODUCER OF LIGHT METAL BEAMS

Southern Representative:
R. E. L. Holt, Jr. & Assoc.
Greensboro, N. C.

New England Representative:
J. S. Fallow & Co.
New Bedford, Mass.

Eastern Representative:
J. Paul Laird
Philadelphia, Pa.

Canadian Representative:
J. S. Fallow & Co.
Montreal, Canada

HAYES INDUSTRIES, INC., Jackson, Michigan

( ) Please quote prices and deliveries.
( ) Have representative call to give me data on the 38" beam.
I would specially like to know
.....
.....

Name .....
Title .....
Company .....
Address .....
City..... State.....

How much does it Cost to be a Good Neighbor?

This is the third in a series of advertisements based on a technical paper by B. W. Dickerson, Sanitary Engineer, Hercules Powder Company. A complete copy of the report or additional technical data on CMC can be obtained by writing directly to Hercules.

Pollution control in textile finishing operations can be expensive. If abatement is to be achieved by the biological treatment of mill wastes, management is faced with a capital outlay for plant construction and the additional monthly cost of operating the treatment plant.

Is there any way of being a good neighbor without such prohibitive cost? Some mills have found the answer in CMC Warp Size. Years of research plus actual use in mills indicate the value of CMC Warp Size as a means of reducing pollution. In many instances, this can be accomplished without resort to a waste treating plant. Where the pollutional load is exceptionally high, introduction of CMC Warp Size into the process significantly reduces the size of the treatment plant required.

A 2 to 1 starch-CMC Warp Size combination can substantially reduce BOD (Biochemical Oxygen Demand) while also reducing add-on and the need for enzymes in the desizing process. A hypothetical case best illustrates how CMC can be economically employed to provide pollution abatement.

A typical small plant might face the necessity of reducing the BOD in its mill wastes by 30%. Accomplishing this by the construction of a treatment plant could involve a capital expenditure upwards of $250,000, *plus* annual operating expenses reaching 10% of the initial capital outlay. By the introduction of a 2 to 1 starch-CMC Warp Size combination in the warp sizing process in place of the starch previously used, add-ons can be cut almost in half. The reduction thus achieved in total waste solids, together with the significant reduction in BOD obtained when CMC Warp Size is used, would provide the desired abatement without recourse to a treatment plant. At the same time, any slight original increase in cost of introducing the starch-CMC Warp Size combination into the sizing process would be substantially less than the operating cost alone of the treatment plant that would otherwise be required.

Where the BOD is so high that CMC Warp Size alone can not solve the problem completely, the treatment plant requirements can be drastically reduced in size. That's why many mills have found in actual practice that by using CMC Warp Size it is possible to be a good neighbor at low cost.

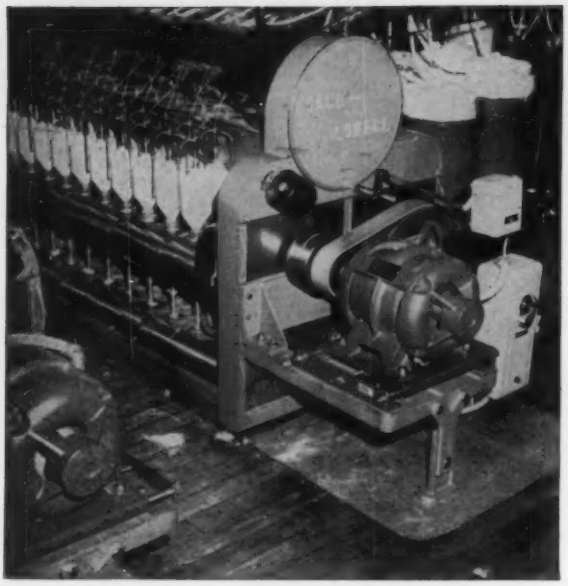
Virginia Cellulose Department

HERCULES POWDER COMPANY

INCORPORATED

903 Market St., Wilmington 99, Del.

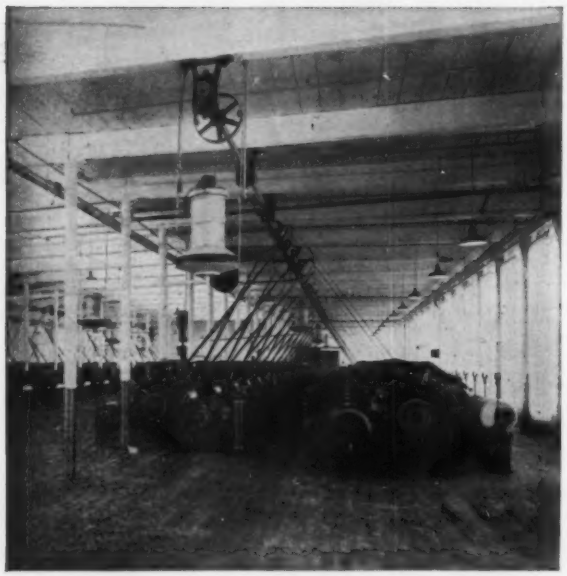
VT56-1



Smooth Start-up Eliminates Broken Ends, Increases Production of Roving Frames!

This short center drive with its Tannate Flat Leather Belt, automatic spring-tension motor base and Bethlehem slip ring starter not only starts the frame so smoothly that it has eliminated broken ends, but also maintains constant speeds increasing production. This is one of 24 drives which were designed and engineered by J. E. Rhoads and Sons for a prominent New England textile mill. Several of them have been running for more than five years and have proved their ability to produce top quality yarn economically. *Rhoads Engineering Service* . . . You too, can take advantage of Rhoads Engineering Service when you are planning new drives or changing old ones. Rhoads Engineers are specialists in the field of mechanical power transmission.

planning new drives or maintaining old ones?



Rhoads Belts driving cards efficiently, economically.

RHOADS...Your Best Buy in Belting...

Whether your machines are driven from individual motors or from a line shaft such as the card room shown on the left, Rhoads belting can often help you obtain more production and lower your belting costs.

As tanners, curriers and manufacturers of such well-known brands as Tannate, Gripotan, Gilt Edge and Powerhold, you can be sure that Rhoads has the belting and the "know how" to economically solve almost every drive condition in your mill.

Remember, Rhoads belting costs less to run and maintain.

Why not take advantage of the experience Rhoads has had in the production and application of flat leather belting? It is a service offered to you without charge.

2100 W. Eleventh St., Wilmington 99, Delaware

RHOADS
INDUSTRIAL LEATHERS

ATLANTA • NEW YORK • CHICAGO

TECHNICAL BULLETIN ON *UVERSOFT* "D"

Send me technical information on Harshaw Uversoft "D"

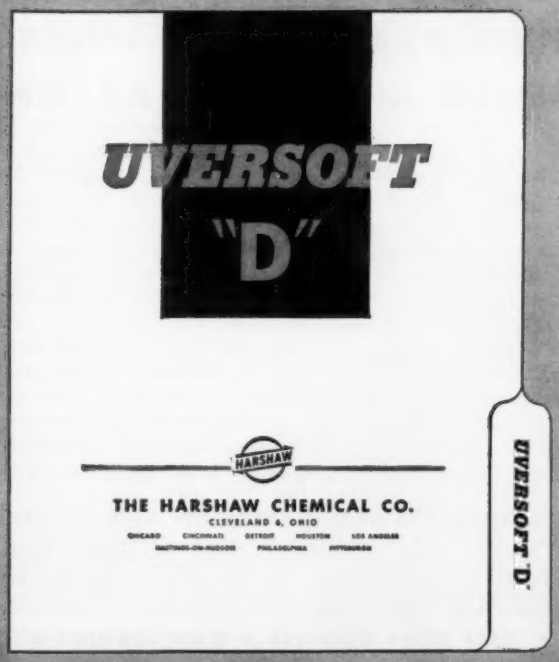
My Name_____

Company Name_____

Street Address_____

City_____ Zone____ State_____

yours for the asking



Imparts Soft Hand With Little Reduction In Moisture Absorbency

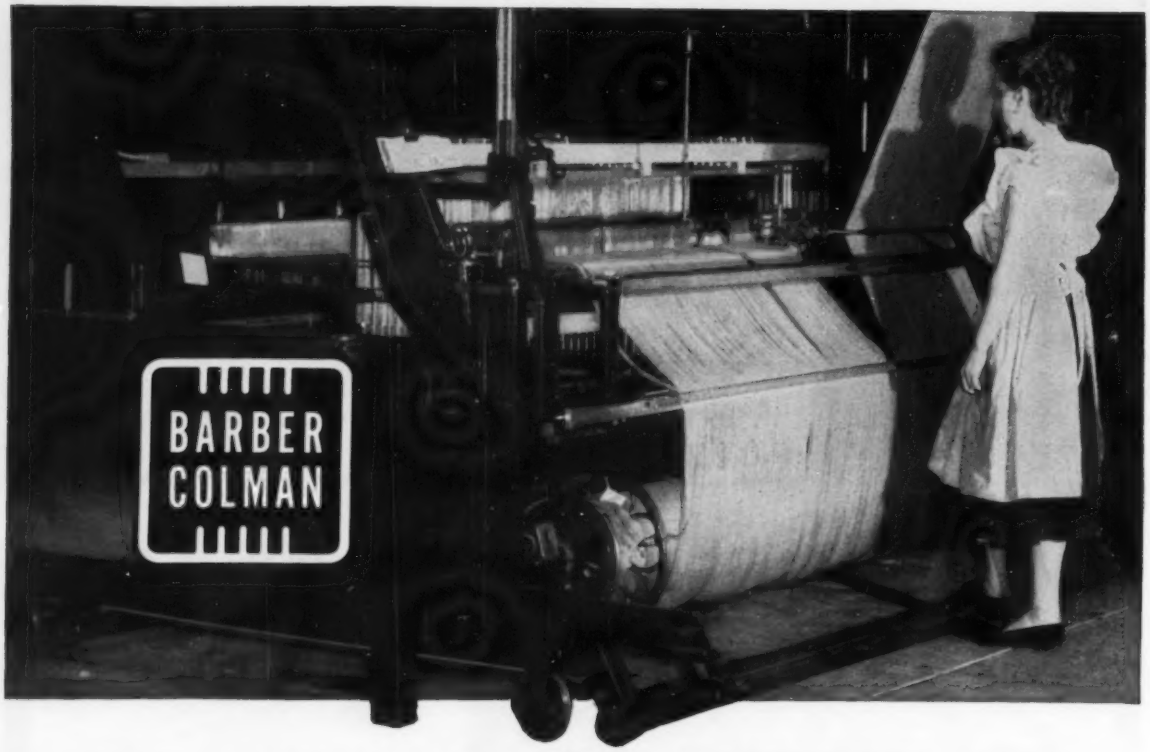
UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.

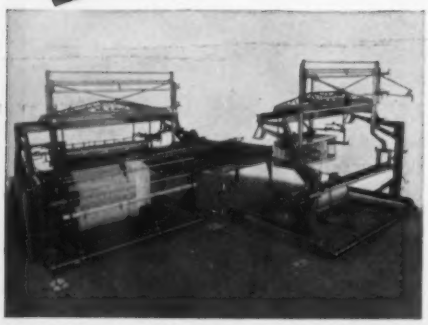
THE HARSHAW CHEMICAL CO.

1945 EAST 97th ST., CLEVELAND 6, OHIO



WARP DRAWING MACHINE DRAWS DROP WIRES, HEDDLES, AND REED IN ONE OPERATION

Write for new
USERS LIST



On a Barber-Colman Warp Drawing Machine, at each stroke of the needle a thread is drawn through the correct selection of drop wire, heddle, and reed dent. This correct selection is made accurately and automatically for each pick by a sequence of mechanical motions controlled by a pattern strip punched in accordance with the designer's draft. Users of the machine are enthusiastic, saying such things as "pays for itself in two years", "gets samples on the loom quickly", "high sley satin warps drawn in 5½ hours instead of 48 hours", "makes style changes rapidly", "saving more than $22 per warp", and the like. Let your Barber-Colman representative look into *your* situation — perhaps he can suggest an installation that could increase production, improve the products, and lower costs.

USE BARBER-COLMAN INSPECTION AND SERVICE

For *all* your Barber-Colman machines, be sure to call on the Service Department of your nearest Barber-Colman office. The men who staff this organization are specially trained and equipped, with a wealth of experience in checking, maintaining, repairing, and modernizing all types and models of Barber-Colman equipment. They are backed by alert main and branch offices who see that they are supplied with complete and reliable parts and information.

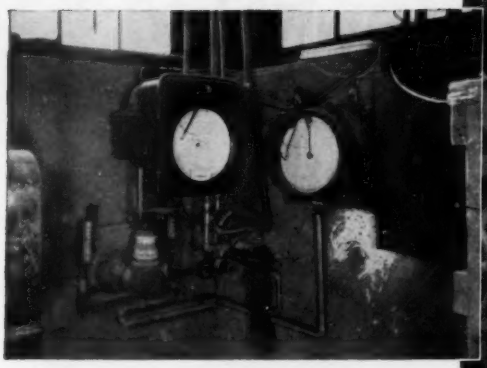
AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

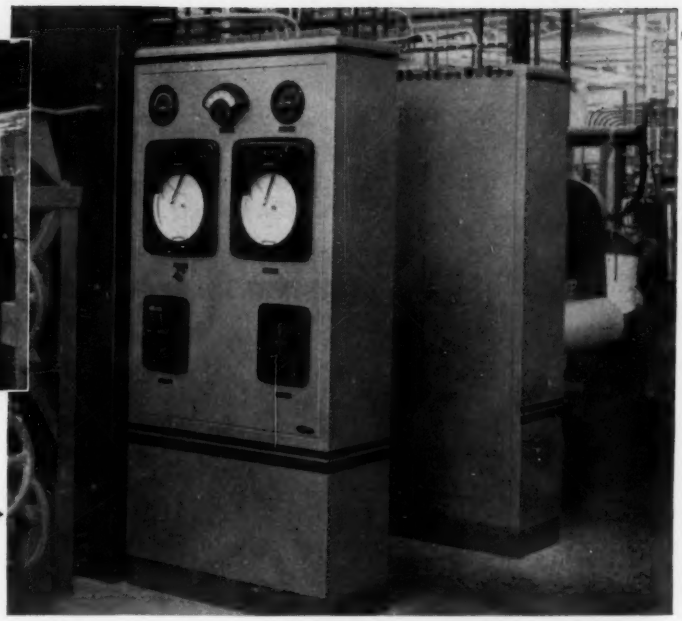
ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U.S.A. MANCHESTER, ENGLAND MUNICH, GERMANY

INDIA	MEXICO	BRAZIL	JAPAN	PAKISTAN	PAKISTAN
Batliboi & Company Forbes Street, Fort Bombay, India	J. Rabasa Isabel la Catolica 45-913 Apariado 7348 Mexico D.F., Mexico	Quimanil S.A. Anilinas e Representacoes Rua Glicerio 537, 547 Caixa 5658 e 3431 Sao Paulo, Brazil	Do-Yei Shoji Kabushiki Kaisha No. 7 Awajimchi 1 Chome Higashi-ku Osaka, Japan	Associated Agencies (M'cr.) Ltd. Piccadilly House 11 Piccadilly Manchester 1, England	Associated Agencies (M'cr.) Ltd. 27 Kothari Building Napier Road Karachi 2, Pakistan



This is part of an old-fashioned installation which lacks the convenience and efficiency of modern instrumentation.

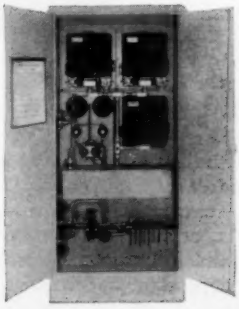


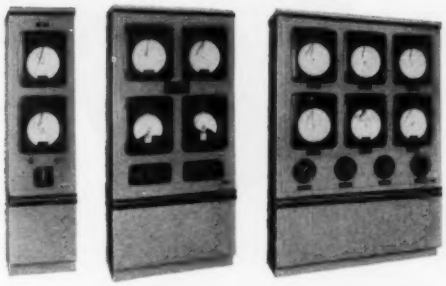
Compare this centralized Foxboro Cabinet installation of similar instrumentation, which saves time for the operator, makes his work more efficient, and gives maximum protection to the precision instruments required for his process.

See what a difference FOXBORO cabinet-mounting can make!

These photos show at a glance how much more efficient and attractive your instrument installation can be if it's integrated and centralized in a Foxboro Cabinet. Not only are the instruments protected from dust and process "atmospheres", but they're conveniently grouped together for more efficient use and easier maintenance. Those "endless steps" of the operator are a thing of the past!

Foxboro will supply a cabinet (or cabinets) to house and protect any number of existing instruments and related devices. Or your order for new instruments can be shipped to you already mounted in cabinets, completely piped and wired, needing only simple power and process connections to be put into operation. Write for illustrated and informative Bulletin 413.





Foxboro Cabinets are available in three standard sizes for 2, 4, or 6 conventional-size instruments (or equivalent). For mounting more than 6 instruments, Foxboro Sectional Cabinets (with open ends) are used . . . bolted together to form desired length. End sections have one closed side to form dust-tight enclosure. Exclusive insert-type panel construction permits easy conversion when process changes so require.

THE FOXBORO COMPANY, 483 NEPONSET AVENUE, FOXBORO, MASS., U. S. A.

FOXBORO
REG U S PAT OFF

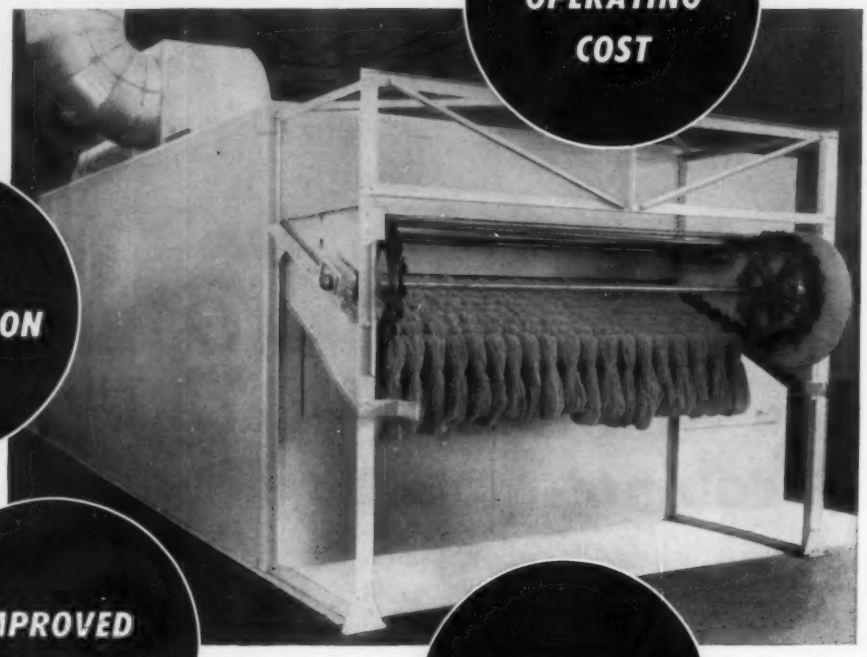
PROCESS CONTROL CABINETS

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND

Put a PROFIT in your yarn drying!

LOW OPERATING COST

EASIER INSTALLATION



IMPROVED HOUSING

RAPID DRYING

Proctor Automatic Skein Yarn Dryer with Two-Way air circulation, drying dyed carpet yarn.

PROCTOR DRYERS for skein yarn

Regardless of your output, there is a Proctor Yarn Dryer with the right capacity to make your drying profitable. Truck Dryers for skeins and cakes, or Automatic Dryers for continuous operation, both feature controlled air circulation to provide the *greatest drying uniformity obtainable*. Cotton, wool, silk, or synthetics can be dried at fastest possible rates—show substantial savings in time, labor, and steam requirements. And, as with all Proctor equipment, you can depend on performance guaranteed in terms of the finished product produced. Investigate these profit opportunities now—write today for latest information bulletins.

WRITE FOR DETAILS. PROCTOR & SCHWARTZ EQUIPMENT FOR THE TEXTILE FIELD

AUTOMATIC BLENDING SYSTEMS • WEIGHING FEEDS • PICKERS • SHREDDERS • BALE BREAKERS • SYNTHETIC CARDS • GARNETTS • DRYERS FOR FIBROUS MATERIAL • YARN DRYERS • HOT AIR SLASHER DRYERS • CLOTH CARBONIZERS • ROLLER DRYERS AND CURERS • LOOP AGERS FOR PRINT GOODS • TENTER HOUSINGS • OPEN-WIDTH BLEACH SYSTEMS FOR WOVEN FABRICS • MULTIPASS AIRLAY DRYERS • NYLON SETTING EQUIPMENT • CON-O-MATIC WASHERS • CONTINUOUS BLEACH SYSTEMS FOR PRODUCING TUBULAR KNITS • EQUIPMENT FOR "SEDMANIZED"® SHRUNK-TO-FIT FABRICS • CARPET DRYERS

Proctor

PROCTOR & SCHWARTZ, Inc.

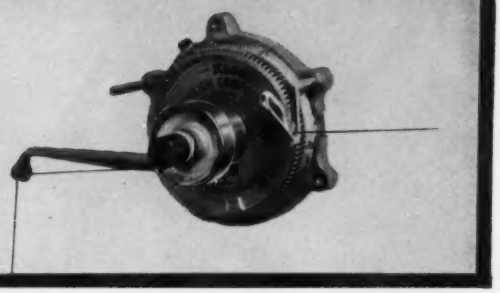
Manufacturers of Textile Machinery and Industrial Drying Equipment
Philadelphia 20, Pennsylvania

TENSION TROUBLES?

Here are 4 mill-tested solutions!

Kidde STANDARD COMPENSATORS

Available in three tension ranges (2 to 50 grams, 10 to 120 grams and 50 to 300 grams), Kidde Standard Compensators may be used in the circular knitting of synthetic yarns and rubber, rubber warping, silk quill winding, and most special applications.

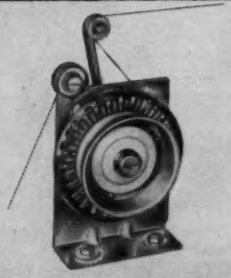


Kidde WARP COMPENSATORS

Creel mounted, the Kidde Warp Compensator is a tension device which is used in commercial beaming, the warp knitting trade, and the weaving industry. It is available in a tension range of from 4 to 22 grams.

Kidde DOUBLE DISC COMPENSATORS

Available in two tension ranges of from 10 to 120 grams and 50 to 300 grams, this Kidde tension device is used mainly in the quill winding of synthetic yarns.



Kidde CORD COMPENSATORS

Available in two ranges of 1 to 7 pounds and 5 to 25 pounds, the Kidde Cord Compensator gives accurate tension control at relatively high tension ranges. It is a highly specialized device which has been designed specifically to meet the needs of industrial textile manufacturers.

More than 500 of the country's leading textile mills now use Kidde Compensators to help them solve tension problems and turn out finer products at less cost.
For more information of how Kidde Compensators can help you, write Kidde today.

Kidde

The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.

Walter Kidde & Company, Inc.
290 Main Street, Belleville 9, New Jersey

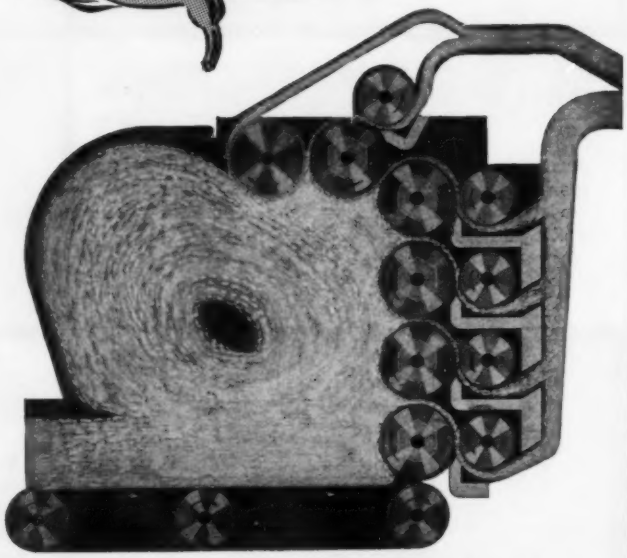
CGC

Continental's SRRL FIBRE OPENER

SAVES SPINNABLE FIBRE
PRODUCES BETTER YARNS
IMPROVES PROCESSING

This revolutionary new type cotton opening machine was developed by the Southern Regional Research Laboratory and first manufactured commercially by Continental. Its prime function is to open and fluff cotton. Laboratory tests and mill experience have shown it does this at high capacity without damage to the fibre. While designed primarily to facilitate cleaning machine-harvested cotton through better opening, it is an excellent blender. This makes it also valuable for high grade cotton. Initial cost and operation are both low.

We invite you to write for Bulletin 208 which gives complete description

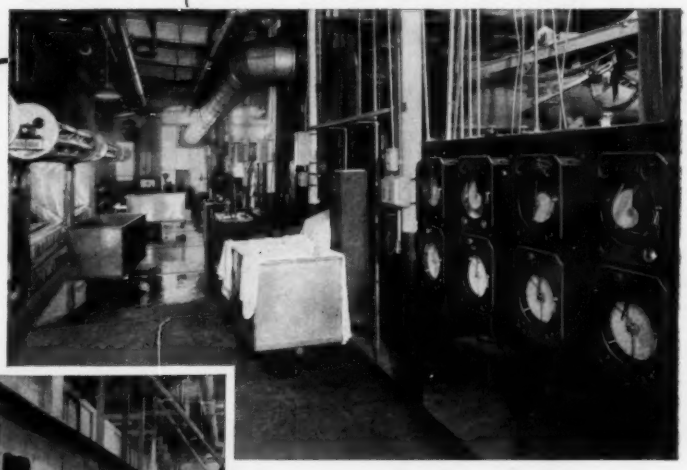


SECTIONAL VIEW

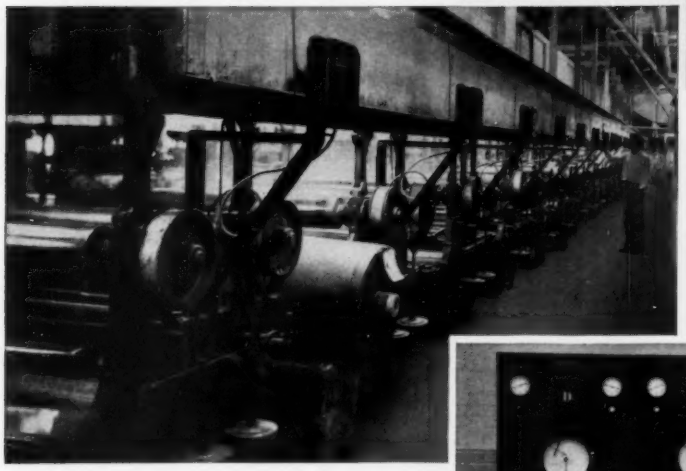
Continental GIN COMPANY
BIRMINGHAM, ALABAMA
ATLANTA • DALLAS • MEMPHIS

3 examples of Taylor Control for Quality Dyeing!

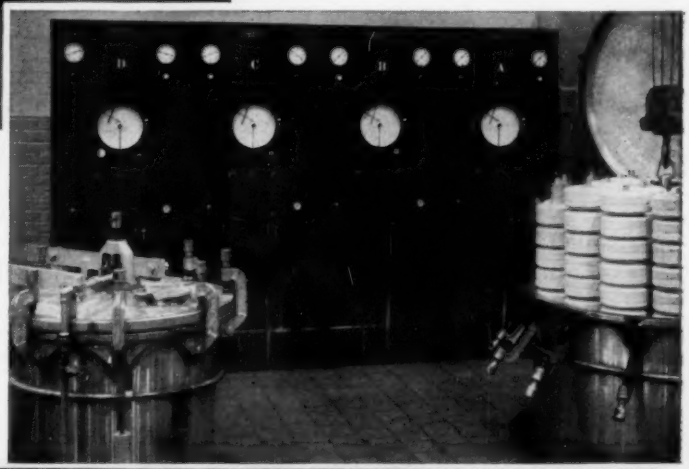
WHETHER you use Piece Dyeing, Jig Dyeing, Package Dyeing, Pressure Dyeing, Pad Dyeing or any type of wet finishing, a Taylor Control System will: **save steam; insure uniformity; cut down on reprocessing; increase production.** Your Taylor Field Engineer has a wealth of valuable experience behind him. Why not give him a call or, if you prefer, write Taylor Instrument Companies, Rochester, N.Y., or Toronto, Canada.



Piece Dyeing of Synthetics calls for extremely precise control of temperature and dyeing cycles. The Taylor FULFLEX* Time Schedule Controllers shown here give fully automatic operation. There are no cams to cut—the operator simply sets three dials for *any* rate of rise, hold temperature and hold time and presses a button. Any part of the cycle can be repeated for additional rise and hold periods.



Dye Jig Operating Costs can be cut, and production and efficiency increased, with this Taylor automatic system. You get uniform dyeing, because the controller maintains uniform dye liquor temperature, regardless of wide variations in steam pressure in the header. Big steam savings result from automatic throttling control, which maintains an even temperature with no overpeaking.



On These Package Dyeing Machines both the temperature and time of the overall dyeing cycle are automatically regulated by Taylor FULSCOPE* Controllers and Process Timers. A dye liquor reversing valve, which gives a specific inside-out and outside-in cycle, is operated by a FLEX-O-TIMER* Time Cycle Controller. It precisely times flow reversal, assuring greater uniformity.

*Trade-Mark

Taylor Instruments MEAN ACCURACY FIRST

Whether you loom fabrics for apparel or for drapery, upholstery or slipcovers—you can now make dramatic use of some of the most brilliant colors ever seen, specifically created for your fabrics' end uses. New jewel tones, in Celaperm, have been developed by Celanese with applications both for apparel and home furnishings. Here is a provocative new color idea which will give fresh direction and inspiration to your styling. *And* a sound basis for promotion to and *by* your customers. See new jewel colors with Far Eastern feeling at Celanese now . . . let your imagination go to work for *your* new lines.

Celanese

*Reg. U. S. Pat. Off.

CORPORATION OF AMERICA, NEW YORK 16

News about

B. F. Goodrich Chemical *raw materials*

Hycar latex sizes... upgrade cotton fabrics, improve hand, washfastness and wear life

SIZES made from Hycar latex (dispersions of Hycar nitrile rubber in water) are as much as 300% more effective than starch sizes in improving wear resistance in cotton fabrics. (Tests made under Federal Specifications CCC-T-191-B, with Stoll Universal Wear Tester.) At the same time Hycar gives a soft, yet full, hand and increases resistance to stain and fading.

Blends of Hycar with urea or melamine formaldehyde (used for increased crease resistance) bring back and even exceed the fabric tear and abrasion strength lost by the addition of urea or melamine formaldehyde alone.

Wool, as well as cotton, comes in the picture with Hycar latex used as an after-treatment to reduce crock, particularly with red naphthol dyes. With cotton and rayon Hycar is used as a binder for pigment coloring and printing.

In cotton it is used as a carrier for such agents as fungicides and flame-proofing chemicals and as a binder for waxes and metallic salts used for water repellency or stain resistance.

What can Hycar latices do for you? For complete information please write Dept. ET-2, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

B. F. Goodrich Chemical Company

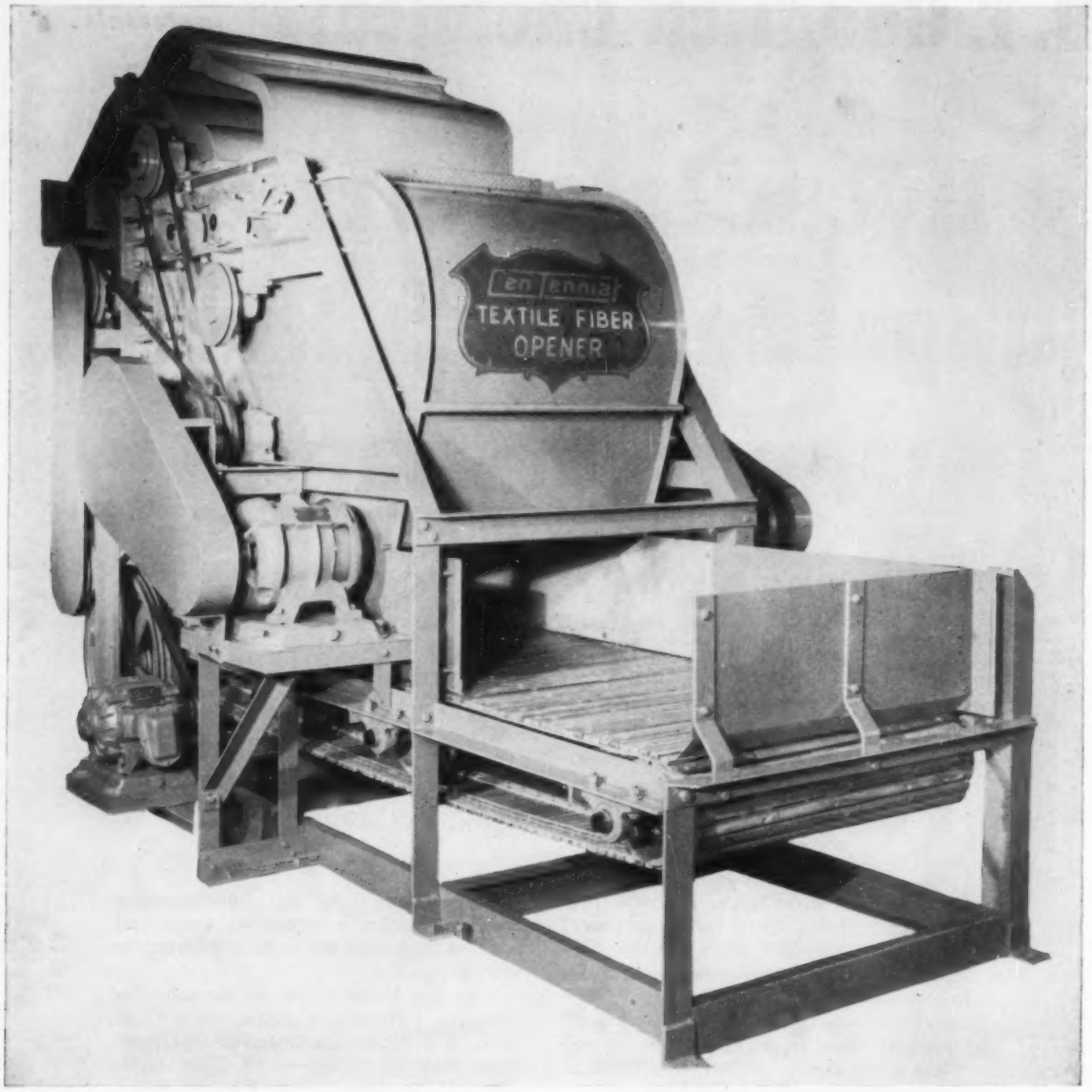
A Division of The B. F. Goodrich Company

Hycar

Reg U.S. Pat. Off.

American Latex

GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors



EXTRA PROFITS, HIGHER QUALITY, BETTER RUNNING WORK ARE FEATURES OF CEN-TENNIAL OPENER.

Installation of the CEN-TENNIAL TEXTILE FIBER OPENER in textile mills on an industry-wide basis has proven that it increases profits—makes for better running work.

Mill reports state that tremendous yearly savings on cotton stock can be effected through use of the CEN-TENNIAL OPENER. In every case where as many as four pickers on middling cotton are being fed by one opener, there has been a saving of not less than $22,400.

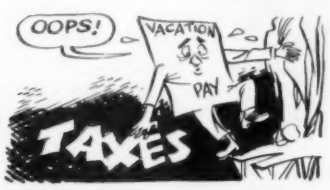
Performance features include opening, cleaning and blending in one unit. Officials of the Company state that patents are pending on many improvements. Further details may be secured by writing

Cen-Tennial Cotton Gin Company, Columbus, Ga.

News IN BRIEF

Textile Man Optimistic. "Mill investment appears more reasonable now than it has; at least mill properties are not liabilities any more, as they occasionally have been in parts of the textile industry over the past several years," said Robert M. Schwarzenbach, president of Schwarzenbach Huber Co., in a recent statement. He lists three factors which should affect the 1956 market favorably: 1. A trend toward elimination, through merger and liquidation, of the weaker producers whose distress selling has depressed the market in recent years. 2. The high level of the American economy in general. 3. The steady increase in the nation's population. Only dark cloud seen on the horizon by Mr. Schwarzenbach is the increasing flood of textile imports from low-wage countries.

Vacation Pay and Fringes Have Tax Pitfalls. Warnings concerning vacation pay and fringe benefits are among the pointers contained in "Tax Planning in Business Policy" (American Institute of Accountants, 270 Madison Ave., New York 16, N. Y.—$2.00). One of the authors says that although



companies may deduct vacation pay accrued for 1955, they will not be able to do so for 1956, under existing regulations, unless the rights of the employee are fully "vested," i.e., if the employee is fully qualified at the end of the fiscal year to get some or all of his vacation, without meeting other requirements. Another contributor suggests that companies should go slowly on extending fringe benefits, lest they find that employees are being taxed for fringe benefits that they accepted under the impression that they were nontaxable. The Treasury is concerned about the growing use of tax-free fringe benefits, and is eyeing them with a view to removing them from the tax-free list.

Canadian Labeling Regulations. Regulations now in force do not require that all textile products sold in Canada be labeled, but provide that when labels are used they must correctly describe the fiber content of the materials concerned. Labels must indicate, in order of predominance by weight, all component fibers making up at least five per cent of the material from which a garment is manufactured. A fiber which comprises less than five per cent of the garment can not be described on the label unless it is clearly stated that it was used to reinforce particular parts of the fabric. The regulations also provide that textile materials can not be labeled as "hand knitted" if they are even partly knitted by machine.

Textile Spending Up. Figures just released by the U. S. Department of Commerce show that textile mills planned to increase their spending during the last quarter of 1955 and the first quarter of 1956 to $179 million, compared to $163 million during the same period of 1954-55. Expenditures for new textile plants and equipment during 1955 were estimated by the Department at $350 million, compared with $331 million for 1954.

Women Wearing Men's Underwear. A California retailer was surprised at a customer who continually bought large quantities of undershirts but never purchased any shorts. Tactfully reminding his

customer of this fact, he received an astounding reply. "Oh," the customer replied, "these aren't for me; my wife wears them under her nightgown to offset the chill in the spring and fall."—*The Underwear News.*

New Process for Acid Dyes on Nylon. The Du Pont Co. has purchased from Cheney Brothers, Manchester, Conn., the technology of a process for applying acid and metallized dyes to woven filament nylon fabrics in a covered jig. The process is said to produce dyeings with acid colors as uniform and level as normally observed with disperse dyes. Technical details will be released soon.

British Textile Fair Planned for 1957. Textiles and clothing, absent from the 1956 British Industries Fair, will have a BIF of their own in London next year, probably in mid-March. The textile and related industries are included in the British Industries Fair every other year.

Guide for Cleaning Fabrics. An extensive fiber identification chart, containing instructions for laundering and drycleaning fabrics made of all commercial fibers, is included in the March, 1956, issue

Purrs like a kitten

at 450 feet a minute

Ideal High Speed Ball Bearing Drawing* runs smoothly and quietly at sustained speeds far beyond the possibilities of conventional equipment. Most mills run their Ideal Drawing at from 200 to 250 feet per minute, but some report much higher sustained speeds.

Ideal's smooth high speeds are the result of radically improved construction. Ideal patented ball bearing spacing sections (which replace conventional collars) do not revolve or carry weight, hence they never wear. They keep the rolls perfectly aligned and synchronized at all times so that they never clash, nick, or burr, and cannot damage stock in any way. Free floating top rolls automatically adjust to card sliver variations and thus eliminate thick and thin places in the drawing sliver. Permanently sealed and lubricated ball bearings eliminate friction. Laminated fibre gears run quietly, dissipate heat, and practically eliminate static.

Ideal Feathertouch Drafting not only purrs like a kitten at higher speeds than you have ever known, but produces far better drawing sliver. Can be installed on most present drawing equipment or supplied on completely new frames. Write for full information today.

Fine Counts
Coarse Counts
Synthetics
Blends

*Patent Nos. 2,610,363; 2,490,544; 2,412,357. Other patents pending.

Ideal Industries, Inc.
Bessemer City, N. C.

of *Cleaning Laundry World*. Reprints are available without charge from the publication's office at 1114 First Ave., New York 21, N. Y.

ACIL Directory Available. The 1956 edition of the Directory of the American Council of Independent Laboratories is now available. In addition to data sheets for each of the Council's 67 member laboratories, it contains a list of over 400 categories of testing services in which its members specialize. Copies are available from the Council at 4302 East-West Highway, Washington 14, D. C.

Associations Study Upholstery Fabric Complaints. A joint meeting of representatives of the National Association of Furniture Manufacturers and the Upholstery and Drapery Fabric Manufacturers Association was held to study and discuss a national survey made by NAFM of furniture manufacturers' production problems with fabrics, and consumer problems with furniture upholstery. The survey is the latest step taken by the two associations in a program to improve production and practices in the upholstery field.

Poland Sells Textile Machinery. A trade agreement recently reached between Poland and Red China provides that Poland will send textile machinery and textile products to China in return for raw materials, according to a release by the Polish Embassy in Washington. The Embassy also announced that 18 nonsatellite countries have purchased Polish textile machinery, the production of which is ten times that of the prewar period. Textile machinery exports were said to have increased almost 900 per cent in 1955 over the 1953 figure.

Cotton Council Moves NYC Offices. The National Cotton Council has moved its New York offices from Worth St. to 112 West 34th St., to be near the fashion and garment industries, and communication media.

Textile Course at U. S. Testing Co. The U. S. Testing Co. has announced that the 19th Annual Refresher Course in Textiles and Testing Techniques will be conducted during the first half of the Teachers College Summer Session, Columbia University, July 9-27, 1956. The course will be held at the company's main laboratories in Hoboken, N. J., and is accredited by Teachers College with three points toward a degree. Further information and application forms may be obtained from Ruth Holmes Little, Director, Consumer Service Group, U. S. Testing Co., Inc., 1415 Park Ave., Hoboken, N. J.

KING COTTON'S EMISSARY during the coming year is Patricia Anne Cowden of Raleigh, N. C., who was chosen Maid of Cotton for 1956 in competition with 22 other finalists at Memphis, Tenn., recently.

Controlling Air Permeability. Methods which will aid the fabric designer in controlling the air permeability of synthetic fabrics are described in a study of nylon parachute cloth made by Cheney Brothers for Wright Air Development Center and just released by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. The studies indicate that it is possible for the manufacturer to control the air pressure characteristics of textile fabrics at high and low pressures independently. Details of weaving and finishing processes are given. The 52-page report, "Study of the Control of Permeability of Nylon Parachute Cloth at High and Low Differential Pressures," PB 111855, is available from the OTS at $1.50.

News in Brief

Plastics Production Continues Fast Growth. The plastics industry again set a record last year when it produced 3.6 billion pounds of raw materials, up approximately 30 per cent over 1954's production of 2.8 billion pounds, according to an estimate by the Society of the Plastics Industry. Included was a production of 85 million pounds of vinyl film, compared to actual sales of 69.9 million pounds the preceding year.

Nylon in Hungary. Hungarian News and Information Service reports that production of staple perlon (nylon) will soon be undertaken in Hungary, to be followed by manufacture of polyacrylonitrile.

AATCC Course on Vat Dyes. The Philadelphia Section, American Association of Textile Chemists and Colorists, will sponsor a series of five two-hour lectures on "The Application of Vat Dyes," starting on Monday evening, March 5, and continuing on the following four Mondays. All lectures will be given at the Philadelphia Textile Institute. Speakers include Paul L. Meunier, Du Pont Co.; Sumner H. Williams, General Aniline and Film Corp.; R. Stewart Wilkinson, PTI; Raymond W. Jacoby, Ciba Co.; and Hans Luttringhaus, Progressive Color and Chemical Co. Fee is $15 for AATCC members and $18 for nonmembers. Reservations may be made through Philadelphia Section, AATCC, P. O. Box 5025, Philadelphia 11, Pa.

Textile Institute Gets New Charter. The Textile Institute, England's technical and scientific textile association, has been granted a Supplemental Royal Charter, which authorizes Fellows and Associates of the Institute to practice and describe themselves as "Char-

tered Textile Technologists," a title which becomes exclusively the right of professionally qualified members of the Institute. The new charter also authorizes an additional grade of membership, "Companion of the Textile Institute."

Salesmen Get Recognition. A new 32-page booklet, "The Salesman Story," published by the Du Pont Co., illustrates the vital function performed by the nation's five million salesmen and the vast sales effort that employs, directly or indirectly, about 15 million people. The booklet records the passing of the old-time drummer, and his replacement by the modern technically trained scientist-economist-engineer-salesman.

Cotton Producers Tour Mills. For the third consecutive year, the American Cotton Manufacturers Institute has sponsored a tour of

cotton mills by a group of cotton producers and their wives. About 50 farm leaders took this year's tour, to plants in Columbus, West Point, and LaGrange, Ga.

NTA Protests Jap Imports. The Northern Textile Association has joined the American Cotton Manufacturers Institute in a petition to the Secretary of Agriculture for quotas on Japanese textiles produced at wage levels averaging less than 15¢ an hour. New England mills are particularly hard hit because of the large increases in imports of fine combed goods of the type made in New England.

World Cotton Loom Statistics. A survey by the International Cotton Federation of the number of cotton looms in place in the world on January 31, 1955, first survey of its kind since 1952, showed an increase of 173,561 looms during the three-year period. The percentage of automatic looms in the world increased from 20.9 in 1930 to 30.8 in 1955. All continents showed an increase in looms in place except North America, where the U. S. had 29,000 fewer looms than in 1952. Statistics for each continent are given in an accompanying table.

Estimated Number of Looms in Place, January 31, 1955

Continent	Ordinary	Automatic	Automatic Attachments	Total
Europe	1,207,835	320,007	66,221	1,594,063
North America	28,887*	400,440**	-	429,327
South America	97,471	48,428	9,664	155,563
Asia and Oceania	579,110	114,732	2,957	696,799
Africa	15,733	7,576	132	23,441
TOTALS	1,929,036	891,183	78,974	2,899,193

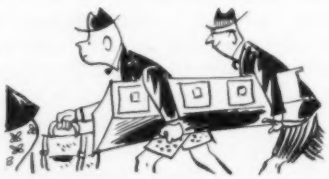
*Does not include U. S. A.
**Includes both ordinary and automatic looms in U. S. A.

Industrial Exhibition for Atlanta. A full-scale international trade show, the Southeastern International Industrial Exhibition, will be held at Lakewood Park, Atlanta, Ga., May 18-25. Featured will be displays of finished products, services, raw materials, machinery, and equipment.

Canadian Mills Modernize. The Canadian cotton textile industry in the past ten years has spent in excess of $134 million for modernization of plant and equipment, according to H. Roy Crabtree, president of the Cotton Institute of Canada. Despite this modernization, however, the cotton mills of Canada supplied only 54 per cent of the Canadian market for cotton textiles in 1955, compared with 70 per cent before World War II. The loss is due, of course, to increased imports, particularly from foreign producers who "can quickly move large quantities of material into Canada and dispose of it here at prices impossible for Canadian producers to meet," with the implication that the U. S. is chiefly guilty.

Japanese Buy American Cotton for 10¢ Less. The USDA is now selling stocks of Commodity Credit Corporation cotton at less than the market price, for shipment abroad, with the proviso that it cannot be re-shipped to the United States. "Sales made under this program up to now have been at prices ranging from 25 cents to 26 cents per pound," said J. Craig Smith, president of Avondale Mills, to members of the American Cotton Manufacturers Institute. "This same cotton would cost Avondale Mills at least 35 cents a pound." Mr. Smith emphasized that there is a mistaken impression that this cotton is low-grade. It is not. The government is selling Middling 15/16 for 25 cents per pound. In a bid for quotas on foreign imports, Mr. Smith stressed that "it certainly doesn't make sense" to prohibit re-entry of raw cotton sold at a discount, but to permit it to come back as cotton cloth or garments.

Underwear Institute Moves. The Underwear Institute has moved to



offices at 468 Fourth Ave., New York City, where the New York office of the National Association of Hosiery Manufacturers is located.

USDA Revises Smith-Doxey Classing Regulations. Strengthening of cotton sampling regulations under the Smith-Doxey classing service for farmers has been put into effect by the U. S. Department of Agriculture. The revised sampling regulations provide that: 1. Each sample must be representa-

Naugatuck Lotols
boost upholstery fabric values!

BACK-SIZING modern upholstery fabrics with just the *right* formulation of rubber or rubber-and-plastic latex adds value to the fabric out of all proportion to its meager cost. Specifically, it—

- **Anchors the weave, twist or pile**
- **Eliminates raveling of cut edges**
- **Improves body and hand**
- **Minimizes water spotting**
- **Prolongs wear**
- **Maintains dimensional stability**

Leading upholstery manufacturers depend on Naugatuck's tailored-to-order latex compounds to give their fabrics added value, aesthetically as well as physically!

Such a latex, custom-compounded in ready-to-use form by Naugatuck, is sold under the trade name LOTOL. And behind every LOTOL® is the know-how that belongs to the world's leading latex producer and compounder, plus the facilities of *three* modern compounding plants strategically located at Gastonia, Naugatuck and Los Angeles to save you shipping time and expense.

SEE – Naugatuck Chemical Division, United States Rubber Company, at work on NBC's "Color Spread" TV spectacular, Sunday, March 25, 7:30 PM, EST.

United States Rubber

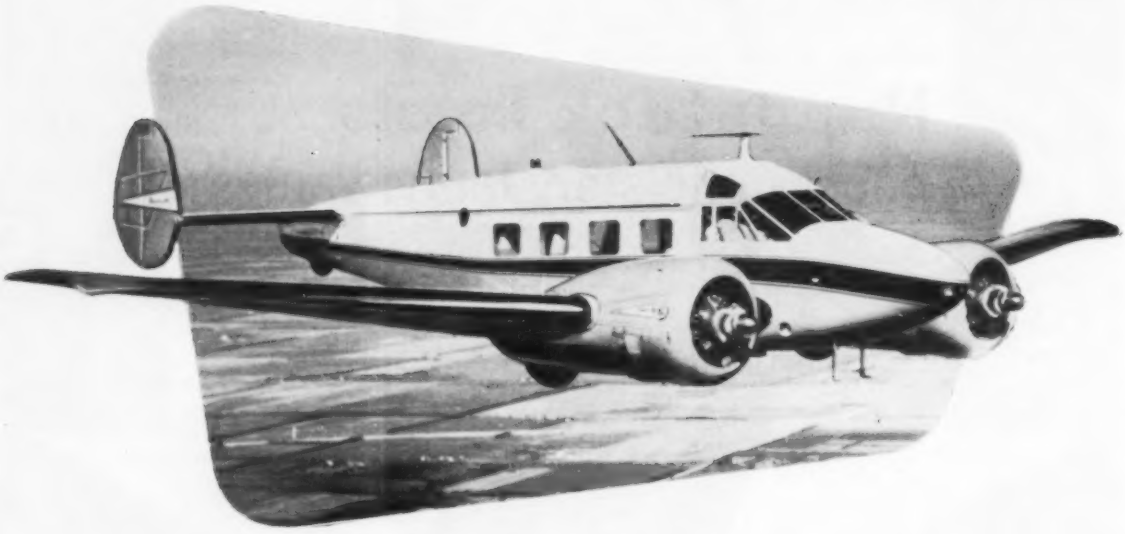
Naugatuck Chemical Division

Naugatuck, Connecticut

BRANCHES: Akron • Boston • Chicago • Memphis • New York • Phila. • Mfg.: Los Angeles • Gastonia • Naugatuck • CANADA: Naugatuck Chemicals, Elmira, Ont.
Rubber Chemicals • Synthetic Rubber • Plastics • Agricultural Chemicals • Reclaimed Rubber • Latices • Cable Address: Rubexport, N. Y.

TRAVEL TIME IS

overhead time



Cut executive travel time **one-third**

with a company **Beechcraft**

Demonstrators available.

Southern Airways Company

ATLANTA AIRPORT

Charlotte, N. C.	*Atlanta, Ga.*	*Birmingham, Ala.*
Tel. FRanklin 6-7150	*POplar 7-8918*	*Tel. 4-0502*

Beechcraft ... *Airfleet of the Textile Industry*

tive of the bale from which drawn. 2. Samples shall not be dressed or trimmed, and shall be handled so that no loss of leaf, sand, or other material will occur to change their character. 3. Samples shall not be handled except by the sampling agent before shipment or delivery to the classing office. 4. Only one sample from each bale shall be submitted except for review or reclassification. Approximately 11,500,000 samples, representing about 80 per cent of U. S. cotton production, will be classed under the program during the 1955-56 season.

Mobile Exhibit of Men's Wear Fabrics for Europeans. To indicate the widespread use of all man-made fibers in men's wear, the International Rayon and Synthetic Fibres Committee, with headquarters in Paris, France, is sponsoring a mobile exhibit including over 500 samples of woven and knitted fabrics and 250 garments and articles containing one or more of every known commercially available man-made fiber. The tour started in February with an exhibition in Madrid and will continue on to 23 principal cities in Italy, Austria, Germany, Belgium, Netherlands, Denmark, Sweden, Finland, Norway, and back to France in July. The material and garments were assembled from 14 countries, including the United States. Practically all of the American fiber and yarn producers cooperated, as well as J. P. Stevens & Co., Inc., Pepperell Mfg. Co., Star Woolen Co., and several converters.

USDA Continues to Require Identical Cotton Shipments. Despite passage of an amendment to the Agricultural Act of 1949, designed to permit shipment abroad of "comparable" rather than "identical" bales of cotton purchased from CCC stocks, the USDA is continuing to require shipment of identical bales. Reports in the trade are that the Department's principal reason for refusal to permit substitutions is to prevent certain cotton shippers with large stocks of untenderable cotton from sending these stocks abroad and buying CCC cotton which could be tendered on future contracts.

News in Brief

Vinyl Fabrics Institute. To more readily identify the Plastic Coatings and Film Association's expanding activities with its products, a new name—Vinyl Fabrics Institute—was recently adopted.

Spinners and Breeders to Meet. The twelfth Cotton Spinner-Breeder Conference, sponsored by the Delta Council, will be held at the Hotel Charlotte, Charlotte, N. C., March 7-8. Hosts will be the American Cotton Manufacturers Institute and the Combed Yarn Spinners Association.

MERCHANDISING NOTES

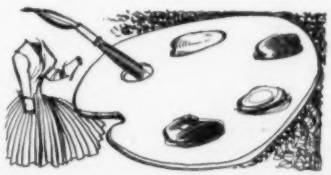
Hunter Douglas Aluminum Corp. has developed a nonstretch Venetion blind tape made by heat sealing 90-denier Fortisan fibers between two sheets of vinyl film in a continuous band.

Arwa Hosiery Corp. has introduced what it claims are the sheerest stretch stockings in the world, made of monofil nylon stretch yarn on 400-needle machines especially designed for Arwa's American plant. The hosiery comes in three proportioned leg sizes, and is claimed to eliminate "the shriveled and midget-size appearance of ordinary stretch hose."

Berkray Corp. has published a 48-page "Berkray Textile Handbook," describing the fibers, fabrics, finishes, and other primary products used in men's apparel. Copies will be distributed to apparel buyers and salesmen in retail stores across the country.

Burlington Industries is placing a series of institutional advertisements in *Life* and the *Saturday Evening Post* based on the theme "It's fun to be well-dressed."

Color Association of the U. S. has issued a brochure of three mauve shades in honor of the centennial of the discovery of mauve, the first synthetic dyestuff, by William Perkin in 1856.

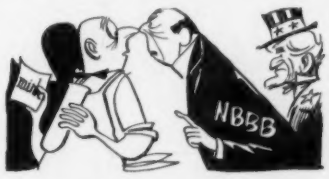


Denim Council reports that a poll of readers of *Parents' Magazine* showed that blue jeans were worn by 97 per cent of the children under 10 in the families polled, 100 per cent of youngsters aged 10 to 17 wore them, and that they were worn by two-thirds of the wives and one-half of the husbands.

Callaway Mills have introduced a terry towel using a Metlon-with-Mylar metallic thread as a decoration.

Cluett, Peabody & Co.'s Sanforized division reports that more than 2.8 billion yards of domestic and foreign fabrics bore the Sanforized label during 1955, a gain of 11.2 per cent over the 1954 figures. The division now has 290 licensees.

National Better Business Bureau has issued a circular calling attention to the fact that the use of such terms as "man-made mink," "test tube furs," and "Persian lamb fab-



100% PRODUCTION and NO SECONDS

...THE GOAL OF EVERY WEAVER

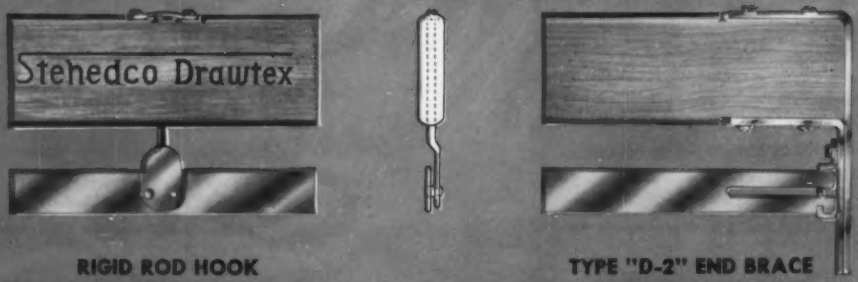
Take The Greatest Step Toward That Goal By Using Stehedco DRAWTEX HARNESS

- **Stehedco Drawtex Heddles and Frames are revolutionizing the textile industry with their efficient, trouble-free performance.**
- **They have proved themselves worthy of the Stehedco name by giving greatly increased production and higher quality goods.**
- **Many of the original Stehedco Drawtex Harnesses have been in constant use for over twenty years.**

The heddles are made of finest quality spring steel and highly polished to handle your most delicate yarns. Only Steel Heddle offers the patented rod slot hump, the shock absorber which is your insurance against heddle breakage. The exclusive spring effect guarantees quick and easy drawing-in by hand or machine. One heddle size can be used for a much wider range of yarn sizes and constructions, and every heddle is a repair heddle which can be added or removed at any position on the frame.

Frames are made of select fir lumber, straight and knot free. The new type D-2 end brace rigidly clamps the heddle rods so that there is no wear on either the brace or the rods, and yet the rods may easily be removed by slight pressure of a screwdriver to add or remove heddles.

The new rigid rod hook eliminates wear and need for replacement, and is easily adjusted with a screwdriver. It eliminates all warp streaks caused by the bunching of heddles at conventional type rod supports.



RIGID ROD HOOK

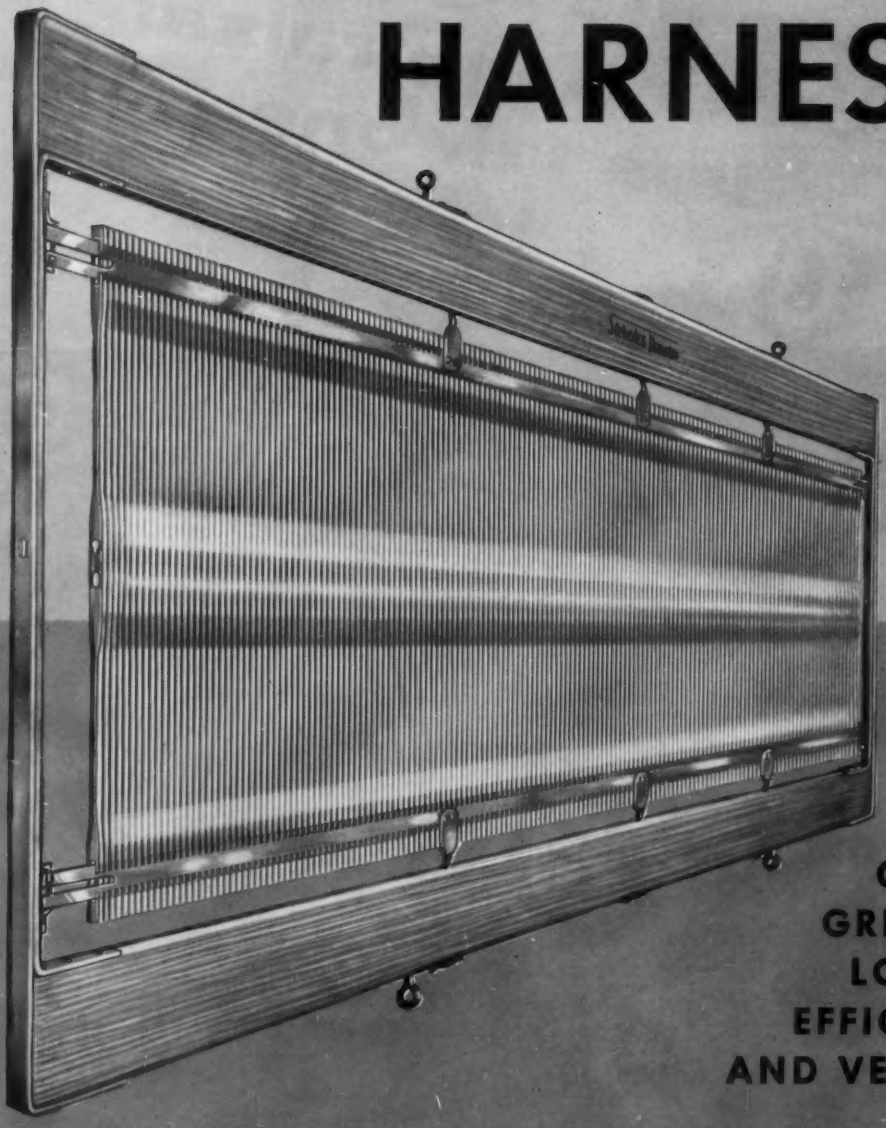
TYPE "D-2" END BRACE

YOU WILL PROFIT GREATLY BY INSTALLING STEHEDCO DRAWTEX HARNESS IN YOUR LOOMS

Ask our Field Engineers for Samples and additional Information about this Revolutionary Type of Harness.

Stehedco

DRAWTEX HARNESS



GET GREATER LOOM EFFICIENCY AND VERSATILITY

STEEL HEDDLE MFG. CO.

2100 WEST ALLEGHENY AVE. PHILADELPHIA 32, PENNSYLVANIA

ATLANTA, GA.—GREENSBORO, N.C.—GREENVILLE, S.C.—PROVIDENCE, R.I.—MONTREAL, CANADA

* Gentlemen, we are agreed... Comer's appraisal is a fair one...

NEGOTIATIONS CAN NOW BEGIN, thanks to Comer's analysis of mill and machinery value. Comer's reputation for fair and accurate appraisals comes of a thorough knowledge of today's market. Add to this Comer's 24 years of service to the textile industry. COMER MACHINERY COMPANY connections reach into every textile center—large and small. This means fast action whether you want to liquidate or purchase . . . whether it's one machine or an entire mill. One call puts the expert knowledge and facilities of Comer at your command. To buy, to sell, to liquidate—put Comer to work for you.

Sales ★ *Purchases* ★ *Liquidations* ★ *Mergers* ★ *Fair Appraisals* ★ *For immediate action . . . contact*

COMER

Machinery Company

*Excerpts from records of actual transactions handled by Comer.

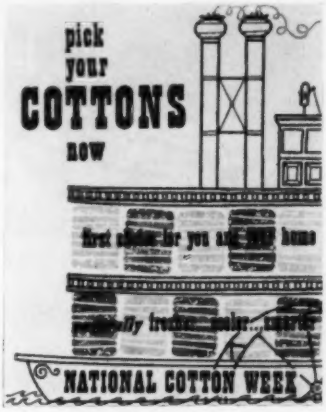
680 West Peachtree St., Atlanta 8, Georgia • EMerson 5682

ric" are violations of the Fur Products Labeling Act and that users run the risk of action by the Federal Trade Commission. NBBB believes, from a study of previous FTC rulings, that if the word "fur" is used in the description of pile fabrics made to simulate the appearance of fur, it should be in conjunction with the words "imitation" and "fabric," as in the term "imitation fur fabric," or similar words which make it clear that fabric imitations of fur are being offered.

Du Pont Co. announces that more than 15 manufacturers were marketing 20 carpet styles of 100 per cent nylon at the end of 1955, and that the total yardage of this floor covering doubled during the year. Further expansion is expected to result from the recent price reduction in nylon carpet staple.

Felters Co. has introduced a blend of wool felt with nylon netting, "HeartFelt," designed for use in women's apparel.

National Cotton Council is using a stylized steamboat design instead of the usual cotton boll on posters



and other materials promoting this year's National Cotton Week.

L. O. F. Glass Fibers Co. is now manufacturing a glass-Dacron yarn, an abrasion-resistant insulation which adheres readily to copper. Designed primarily for use in magnet wire, the yarn is also used for aircraft electrical cable construction and for sleeving and tubing.

News in Brief

Massachusetts Department of Commerce recently sponsored a two-day style show with the theme "Made in Massachusetts."

Textured Yarn Co. is manufacturing a Tycora bulked yarn especially processed for use in interlock knitted men's sweaters.

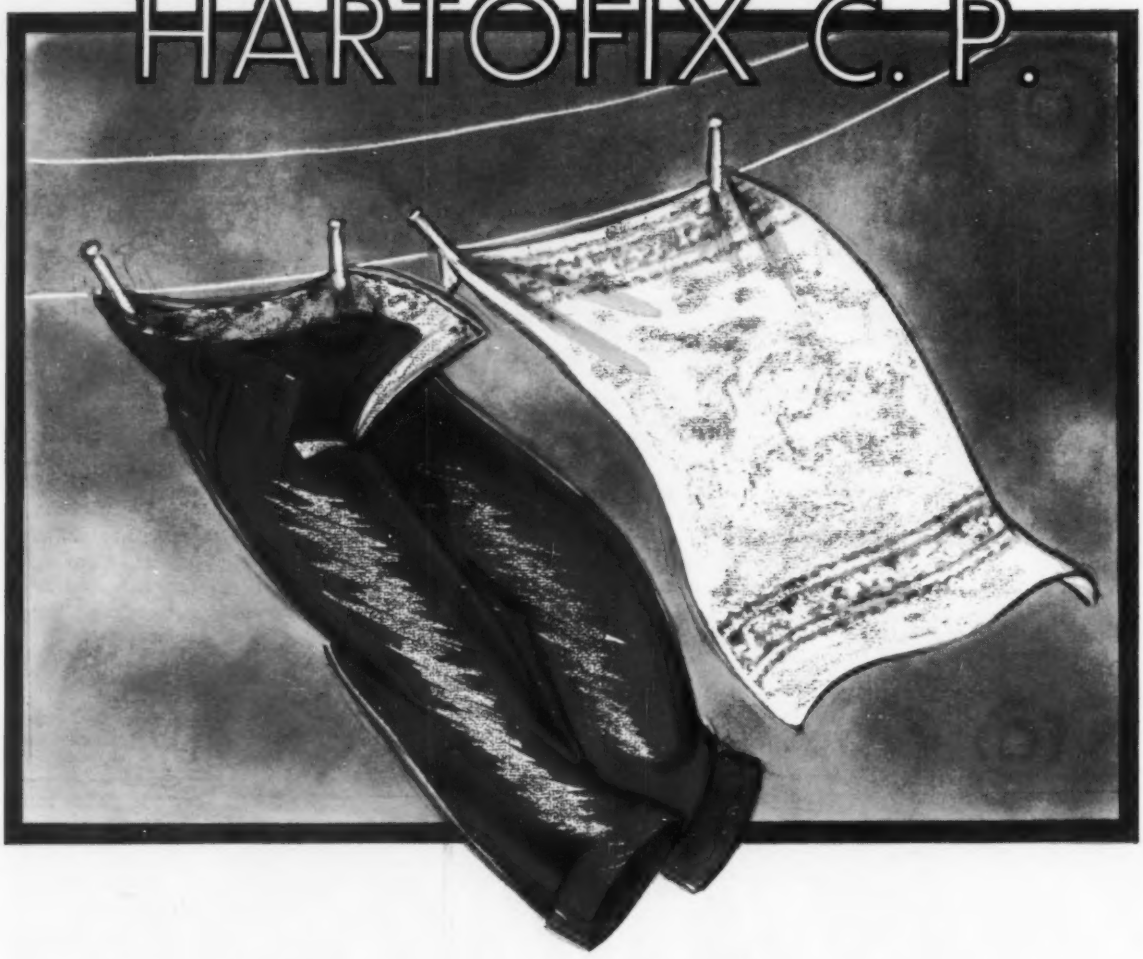
The Wool Bureau has been designated the official clearing house for all promotion, advertising, and publicity concerning the donation by apparel manufacturers of wardrobes for the U. S. Olympic teams. The step was taken so that none of the rules of the Olympic Committee would be inadvertently violated.

PENSION & PROFIT-SHARING PLANS

Serving businesses large and small since 1891

TRUST COMPANY OF GEORGIA
ATLANTA

HARTOFIX C.P.



Hartofix C. P. stops water bleeding !

If you would like to be absolutely sure that *your* fabrics will never be the cause of these little domestic tragedies, always specify selected direct dyeings aftertreated with HARTOFIX C.P.

HARTOFIX C.P. stops water bleeding, prevents perspiration staining, and improves wash resistance of direct dyeings or prints on cellulosic fibers . . . especially tailored for application with resin finishes. And by eliminating the need of expensive fast dyes, HARTOFIX C.P. actually saves you money!

Complete information on all Hart products will be gladly furnished on request.

HART PRODUCTS
BASED ON RESEARCH

the Hart Products Corporation

1440 BROADWAY, NEW YORK 18, N. Y.

Works and Laboratories, Jersey City, N. J.

Hart Products Company of Canada, Ltd., Guelph, Ontario

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Reins of Bureaucracy Tighten

IF YOU have been following the case of the some 150 textile mill companies which are suing the Secretary of Labor under the Walsh-Healey Act, then you should bring your score card up to date to take care of the latest figures that have been put on the score board.

Just to refresh your mind on this hodgepodge of confusion, we should note the fact that this suit was filed some three years ago against the Secretary of Labor who, at that time, was the late Maurice J. Tobin. Some hours before the Palace Guard was turned out by the advance forces of the Eisenhower Administration, Secretary Tobin issued a ruling under the provisions of the Walsh-Healey Act which established a nationwide minimum of $1.00 for the textile industry. This was to apply to all government contracts of more than $10,000.00, just as the old 87¢ minimum had applied.

A law passed a few months before gave textile mills (as well as others who might be affected by the Secretary's administrative orders) the right to sue, and this some 150 companies did within a matter of days. In this suit the plaintiffs held that the law specified that the Secretary was to "determine" the minimum wage being paid in the various "localities" of the textile industry, and that he had no right to determine a nationwide minimum.

Before the smoke of combat had cleared, there were two cases involving cotton mill companies and one involving woolen companies, and in these three cases three separate judges ruled that the position of the plaintiffs was correct. The cotton mill cases then went to the Court of Appeals for the District of Columbia where a three-man panel, by a decision of two to one, reversed the District Court and held for the government.

The cotton mill companies then asked that the full Circuit Court of Appeals for the District of Columbia review the case, but this was refused, although the refusal to review seemed to be based primarily on the feeling of the individual judges that the matter was going to have to go to the Supreme Court anyway and that it might as well go on up for final decision without any further ado.

Although the woolen mill case has not progressed this far, the cotton companies have now filed an appeal with the Supreme Court and it remains to be seen whether (1) the Supreme Court will accept the case for review and (2) if it does, what final decision will result.

One-Man Wage Decisions

Nobody cares any more about the one dollar figure which the Secretary of Labor would establish under the Walsh-Healey Act, because we now have a nationwide minimum of the same figure for all companies subject to the Fair Labor Standards Act. The dollar figure is, as the lawyers say, irrelevant, incompetent, and immaterial.

However, there is a principle involved here which is far from irrelevant, and it is simply this: *Shall one man in the United States be given the authority to say what minimum wages shall be paid, on a nationwide basis, for every industry in the country?*

While it is true that only those companies are subject to the Act which do business with the government, it is also true that the rates paid by these companies determine, in some measure, the rates to be paid by other companies, and, in time of war, practically everybody must do business with the government. From the broader standpoint, an increase in the minimum always affects rates above the minimum, because you cannot raise the man at the bottom of the pile without raising those above him.

The Secretary of Labor has been usurping this power for many years, but he has always been a little shaky about his grounds for doing so under the law. Now, however, if the Supreme Court rules that he does have this authority, then he will run with the bit in his teeth and will try to set himself up firmly as the czar of American wage rates.

If the Supreme Court rules against the textile companies, we will accept a small wager that within twelve months thereafter the Secretary will announce a "hearing" to consider a request from the unions to raise the textile minimum to at least $1.25.

Textile Prices

From time to time, we have gotten ourselves all agitated over the fact that the textile industry is getting less than its fair share of the consumer dollar. We have ex-

pressed this indignation and agitation in this space over the past several months, and it is with some sadness and chagrin that we must report that, in spite of these utterances, there have been few, if any, changes in the statistics on cotton textile prices emanating from the federal departments in Washington. Our industry seems to be doing just about as badly in this respect as it was before we mentioned it in TEXTILE INDUSTRIES.

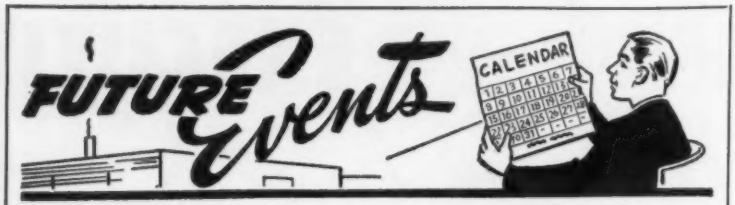
While we were pondering (weak and weary) over this sad state of affairs, it occurred to us to consider what relationship there might be between the lack of adequate budgets for advertising and promotion, and the fact that textile prices have been extremely low for the last several years. It is a basic and extremely economic fact that a company cannot spend money for advertising unless it makes sufficient money to spend. At the same time, we must, perforce, wonder which came first, the chicken or the egg.

In other words, is the relatively unprofitable textile industry this way because it has not spent enough money on promotion?

We know, of course, that this is an over-simplification of the problem because, as we pointed out last month, there is not much that an 80-square mill can do to glamorize its product, nor is there very much that a yarn mill can do to make people want to buy 30s single. Nevertheless, as we recall the situation, the prices of industrial commodities in this country have increased about 15% since the Korean War, but the prices of textile products are down about 5% over the same period. There must certainly be some explanation of why the prices of practically everything else in this country have been going up for the past several years, while the prices of textiles have been going down.

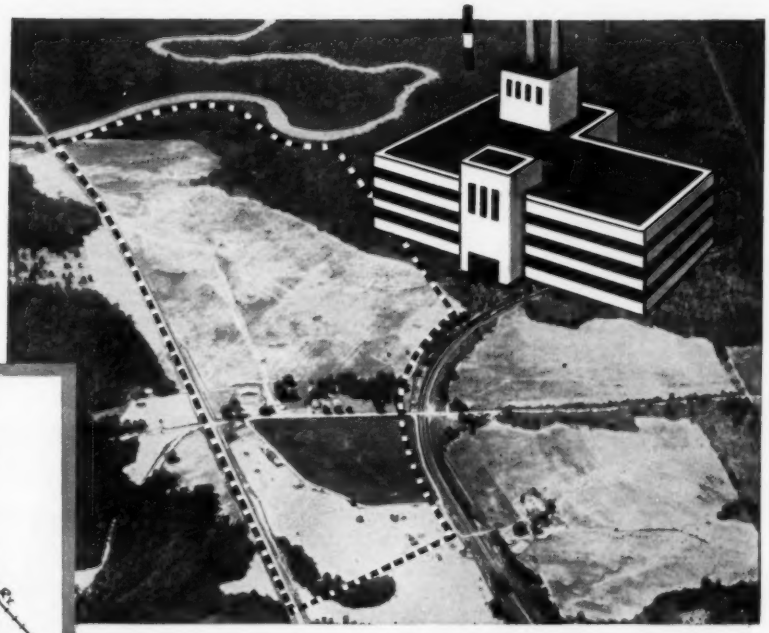
Are Japanese imports to blame? Do we need a gigantic consumer motivation survey? Do we need more product promotion on an industrywide basis? Should textile companies devote more dollars to advertising? Should all of us get in

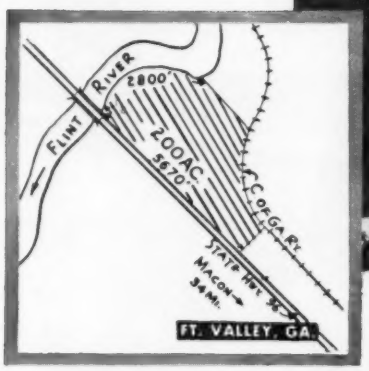
(Continued on page 214)



Date		Event	Location
Mar.	1-2	AIEE Conference on Electrical Application for the Textile Industry	Georgia Tech Atlanta, Ga.
	4-6	Southern Safety Conference and Exposition	Biltmore Hotel Atlanta, Ga.
	7-8	Cotton Spinner-Breeder Conference	Hotel Charlotte Charlotte, N. C.
	13-16	ASTM Committee D-13 on Textiles	The Warwick Hotel New York City
	16	Western New England Section AATCC	Rapp's Restaurant Shelton, Conn.
	16	Hudson-Mohawk Section AATCC	Hotel Johnstown Johnstown, N. Y.
	22	Rhode Island Section AATCC	Crown Hotel Providence, R. I.
	22-23	Textile Research Institute annual meeting	Hotel Commodore New York City
	22-23	Southern Textile Methods and Standards Association	Clemson House Clemson, S. C.
	23	New York Section AATCC	Kohler's Swiss Chalet Rochelle Park, N. J.
April	5-7	American Cotton Manufacturers Institute annual meeting	Hollywood Beach Hotel Hollywood Beach, Fla.
	5-6	Carolinas Section, American Society for Quality Control	Clemson House Clemson, S. C.
	7	Piedmont Section AATCC	Sir Walter Raleigh Raleigh, N. C.
	11-13	Alabama Cotton Manufacturers Association annual meeting	Hotel Buena Vista Biloxi, Miss.
	18-19	National Knitted Outerwear Association annual convention	Waldorf-Astoria New York City
	19-21	Phi Psi Fraternity annual convention	A. P. I. Auburn, Ala.
	20	Philadelphia Section AATCC	Benjamin Franklin Philadelphia, Pa.
	21	Georgia Carding-Spinning Discussion (TOE)	Georgia Tech Atlanta, Ga.
	25-28	Cotton Manufacturers Association of Georgia annual convention	Emerald Beach Hotel Nassau, Bahamas Islands British West Indies
	27	Northern New England Section AATCC	Lowell Tech Lowell, Mass.
	27-28	Delta Kappa Phi Fraternity annual convention	Georgia Tech Atlanta, Ga.
May	2-3	The Fiber Society, Inc.	Clemson House Clemson, S. C.
	2-4	North Carolina Industrial Safety Conference	Hotel Charlotte Charlotte, N. C.
	4	The Underwear Institute annual convention	
	5	Mid-West Section AATCC	Plankington Hotel Milwaukee, Wis.
	14-19	National Cotton Week, sponsored by National Cotton Council	
	18-20	Southeastern International Industrial Exhibition	Lakewood Park Atlanta, Ga.
	31-June 2	Tufted Textile Manufacturers Association convention	The Fontainbleau Miami Beach, Fla.
	31-June 2	South Carolina Textile Manufacturers Association convention	The Cloister Sea Island, Ga.
June	5-7	Textile Seminar, sponsored by Textile Technical Federation of Canada	Queens University Kingston, Ontario
	14-16	National Association of Hosiery Manufacturers annual meeting; also Hosiery Industry Conference	Hotel Roanoke Roanoke, Va.
	21-23	Southern Textile Association annual convention	Mayview Manor Blowing Rock, N. C.
Sept.	6-7	The Fiber Society, Inc.	The Warwick Hotel New York City
	10-15	Perkin Centennial	Waldorf-Astoria New York City
	13-15	American Association of Textile Chemists and Colorists annual convention	Waldorf-Astoria New York City
	27-28	Combed Yarn Spinners Association convention	Cavalier Hotel Virginia Beach, Va.
Oct.	1-5	Southern Textile Exposition	Textile Hall Greenville, S. C.
	10-12	North Carolina Textile Manufacturers Association annual meeting	The Carolina Pinehurst, N. C.
	13	Georgia Slashing, Weaving, and Maintenance Discussion (TOE)	Georgia Tech Atlanta, Ga.
	17-27	International Knitting Machinery & Accessories Exhibition	Granby Halls Leicester, England

Get the JUMP on Competition





Build Your New Plant in the Nation's Fastest Growing Market

Cut distribution costs and increase profits—build *your new plant* on this ideal site at Fort Valley, Georgia.

- 200 acres of level terrain adjacent to Central of Georgia Railway, situated in the heart of a thriving market of 22 million people.
- Located six miles west of city limits of Fort Valley, 34 miles from Macon.
- 2,800 foot frontage on Flint River.
- Minimum flow at site 193,881,600 gallons per day.
- Also ample underground water supply.
- Advantageously located for textile and chemical plants or other industries requiring large amounts of water.
- Fast, reliable daily freight service via Central of Georgia Railway connecting directly with 15 major railroads and Seatrain at Port of Savannah.
- 5,670 foot frontage on State Highway 96, which connects with U. S. Highways 341 and 19.
- Population of 89,978 within 25-mile radius.

CENTRAL of GEORGIA RAILWAY

...The Right Way

This site is adaptable to almost any type of industry. *Investigate* by writing, in strict confidence, for maps and complete data. The Industrial Location Specialists of Central of Georgia will gladly work with you on your re-location problems.

FREE 32-PAGE BROCHURE describing this and other desirable river sites will be sent on request.

MAIL THIS COUPON TODAY

CENTRAL OF GEORGIA RAILWAY COMPANY
INDUSTRIAL DEVELOPMENT DEPARTMENT
Department F
1212 Rhodes-Haverty Building—Atlanta 3, Georgia

I'm interested! Rush me a copy of your FREE 32-page brochure right away.

Name_____ Title_____

Company_____

Street or Box No._____

City_____ State_____

$[C_6 H_{10} O_5]_n$

HUNTER CURING OVEN-DRYER

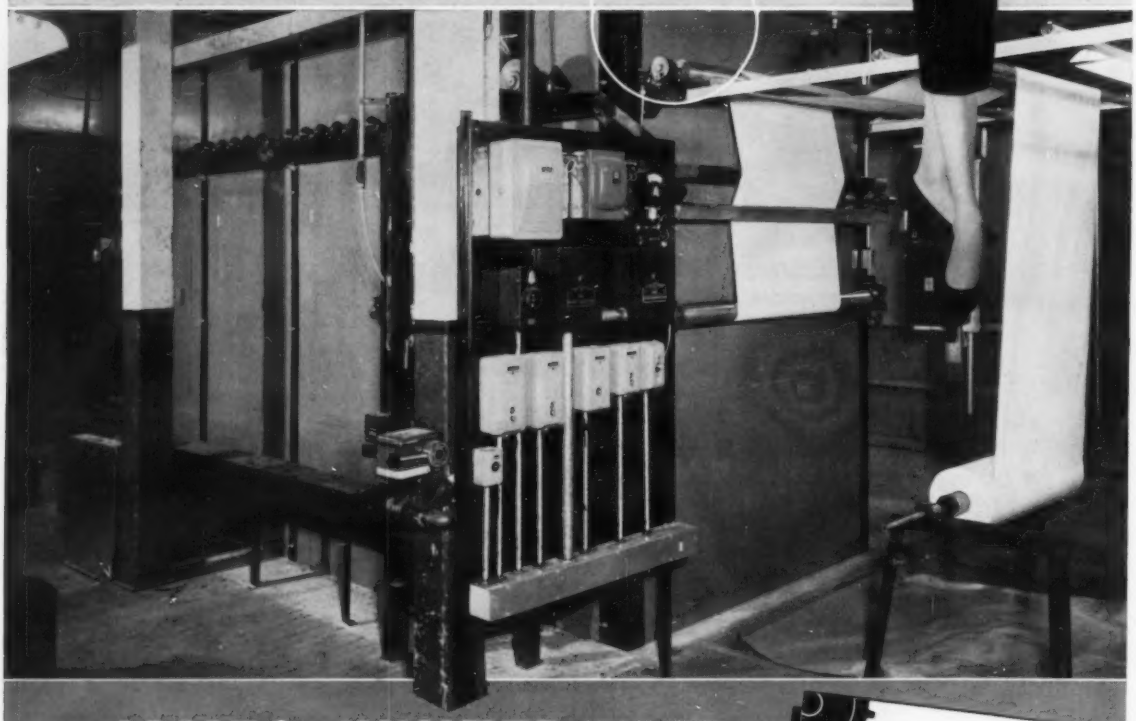
handles **ALL** *cottons and synthetics...*
cuts costs at **SLATER DYE WORKS**

At Slater, as well as at other dye works and textile mills, the HUNTER CURING OVEN-DRYER (Model B) is proving its versatility and efficiency in the curing or drying of *all* resin-treated synthetic, cotton, wool and blended fabrics.

THIS DOUBLE-DUTY UNIT HAS:

1. **Even air circulation *through modern design of circulation system.***
2. **Uniform temperatures *throughout the entire length and width of the oven by unique placement of nozzles.***
3. **Faster, even polymerization *of resins because both sides of fabric are heated evenly.***
4. **Insulated *"No-Through" metal paneling holds heat more effectively. As a dryer (69 yard capacity unit), 720 to 900 pounds of water per hour from 40" fabric.***

Get all the cost-cutting facts. Write for Bulletin CO 10 today!



JAMES HUNTER MACHINE COMPANY

BUILT BY HUNTER ...IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

plus production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair ... rapid parts delivery

This Employee Suggestion Plan Pays Off

EXCLUSIVE

F. C. HUYCK & SONS' Kenwood Mills at Rensselaer, N. Y., have had an employee suggestion plan called the "Idea Bank," which since its inception about three years ago has met or bettered the national average in every six-month period for number of suggestions received. The typical award is also far above the national average.

Who Is Eligible? Rules for the organization and operation of the idea bank plan have been carefully formulated. Office and hourly paid employees are eligible, but laboratory technicians, chemists, designers, staff department men, and office and factory supervisors are not eligible for cash awards. However, acceptable suggestions made by these ineligibles receive public recognition, which is credited to them in their personal record.

Purposes of the Plan. The plan has three basic purposes: (1) to secure as many good ideas as possible, (2) provide a way for having the ideas given due consideration by the proper people, and (3) to foster good relations between employees and management.

It is assumed that the operative on the job is in the best position to make good suggestions for improving the quality and efficiency of his work. It is further realized that the plan enhances the feeling of each employee that he is of importance as an individual, and that when his ideas based on his experience are given fair consideration he will work with better efficiency and take much more interest in his job.

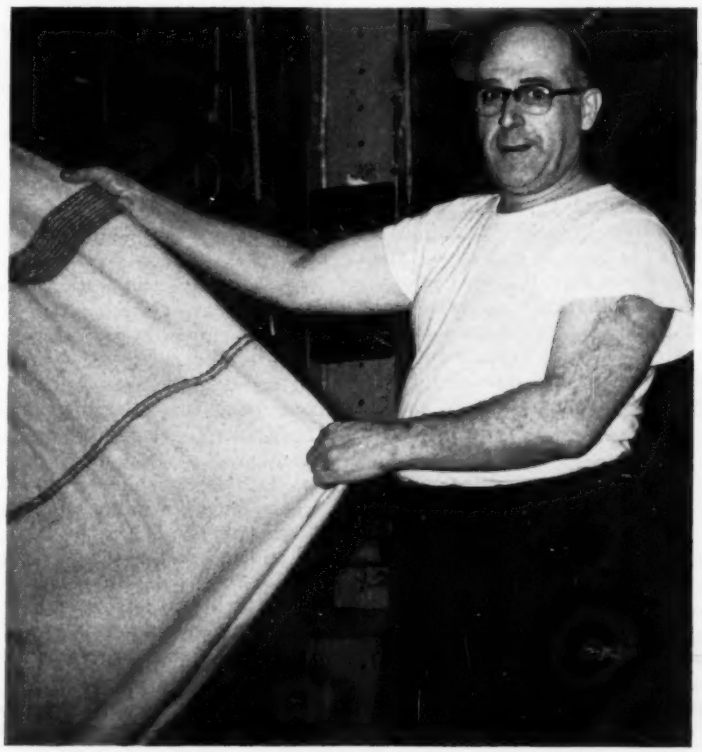
Organization of the Plan. The organization consists of an idea bank manager, and a board of directors. The functions of the manager, Alfred H. Tanner, and his assistant, Carl Kundel, are to provide a depository for suggestions, handle the office work, investigations, and complaints, and to make sure that each employee gets a fair deal.

The board of directors consists of the general superintendent, W. Moe; the office manager, A. McWhorter; the president of the union, W. G. Reilly of Local 76, UTWA; the industrial relations manager, W. P. Stevens; and the chief industrial engineer, P. C. Lawson. The idea bank manager acts as secretary of the board.

Decisions as to whether specific suggestions shall be adopted are not made by the board of directors (usually called the committee); but by management representatives, such as the foreman of the department involved, and the assistant superintendent. After the bank manager and his assistant have completed their investigation, they prepare a report giving a decision as to the value of the suggestion and specifying the amount of the award, and this is turned over to the board of directors.

Upon receipt of a report the committee approves the award on the basis of information submitted with it, which sets forth the calculation of the expected savings. If the report rejects a suggestion,

LARGEST AWARD TO DATE under F. C. Huyck & Sons' "Idea Bank" suggestion plan was about $600, won by Harold Rohrmiller for an idea which resulted in improvement of a wet finishing operation.



the committee reviews it to be sure that the matter has been impartially considered, that personalities have not been permitted to bias the judgement of the management representatives, and that the reasons for rejection are just and sufficient. If the committee is not satisfied, it may order further investigation.

The committee, or board of directors, has the additional duty of passing on the eligibility of all suggestions and of those who make them. It is expected that it will, individually and as a group, initiate activities to promote and stimulate participation of the employees in the idea bank, and also to amend the rules and policies of the plan as experience or changing conditions make desirable. Decisions of the committee regarding the suggestion plan are final.

Role of Company Officials. Company officers support the plan by sending letters of congratulation to those who make suggestions of unusual merit, and by encouraging all levels of management to try new ideas. They also define job authority clearly so that the supervisors will be willing to make prompt decisions respecting suggestions, and they assist the idea bank manager by reviewing his monthly reports on the plan.

An extremely important role in the suggestion plan is played by the department supervisors. They are expected to stimulate employee interest and to encourage their operatives to make suggestions by assisting them in making out their suggestion slips. It is the aim of the company that each supervisor shall make his employees feel that he really wants his department to be a leader in the number of suggestions adopted.

Operation of the Plan. Suggestion boxes are placed in strategic locations throughout the plant. There is a supply of suggestion blanks at each box and new posters are pinned up weekly at each one to stimulate interest. Suggestion slips are collected at least once a week by the idea bank manager, who sees to their processing with the least possible delay.

For the benefit of all the operatives, an idea is defined as a constructive suggestion to improve methods, equipment, or procedures for the reduction of time, costs, and waste. It must make a suggestion and include a method of carrying it out. The idea need not be original or new so long as it involves a new, further application of an old idea.

Ideas must be submitted in writing on the suggestion blanks provided for the purpose. Suggestions relating to repair work, painting, and other maintenance matters are not considered eligible unless they include improved methods of doing the work. Suggestions must be dated to insure prior consideration in case some other employee makes a similar suggestion.

Suggestion slips also have a space for the name of the person who is offering the idea. If the suggestor prefers to remain anonymous while the investigation is being made, he can make use of the numbered coupon on the slip. However, the idea bank manager encourages those making suggestions to give their name so that they can be consulted by the investigators in case some points need further explanation. Anonymous suggestions are announced on the idea bank bulletin board when they win an award.

There are several additional rules governing the workings of the idea bank. In the first place, all adopted ideas become the propperty of the company. Suggestions which might be patentable are referred to the proper authorities for consideration.

Anyone whose suggestion is not adopted when it is submitted will receive his award if it is put into effect within two years from the original date of submission. For example, an employee might make a suggestion for something which it is not practicable to use right away but which might be very desirable under changed conditions. To be entirely fair, if an idea is not adopted within the two years and the suggestor thinks it is good enough to retain his claim, he can resubmit it at any time before the expiration of the two-year period.

Suggestions made by two or more employees in partnership are acceptable, and in such cases the award will be evenly divided between them unless instructions written on the suggestion slip specify a different method of division. The supervisor or idea bank manager is always ready to assist any employee in preparing his suggestion slip.

If a change is made as the result of a verbal suggestion, the one who makes it will be eligible for an award if he submits it in writing on a suggestion slip within fifteen days after the change has been made. However any suggestions dealing with experimental work, new processes, new equipment, and new layouts are not considered eligible for consideration for awards until such time as the work is finished or the new equipment completely installed. For example, the new 680″ loom recently set up was not an eligible subject for suggestions until it was actually in production.

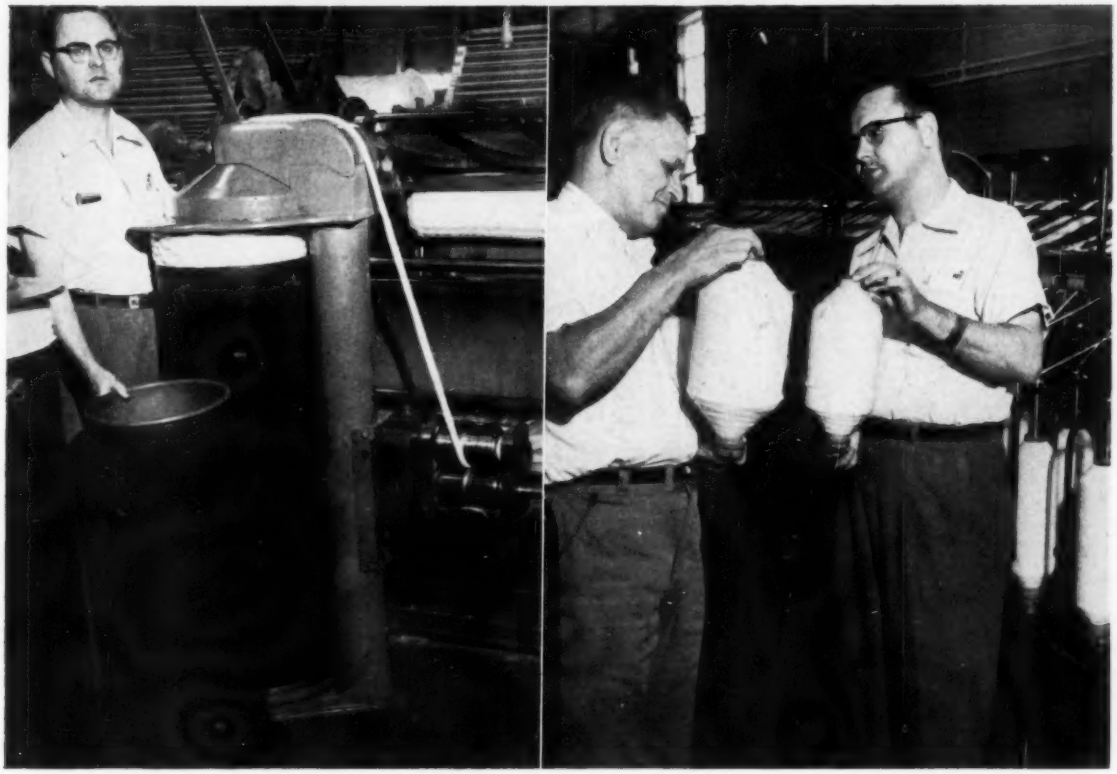
Suggestion awards or suggestion plan policies or procedures are not allowable as subjects for grievances, and the company reserves the right to abolish the plan if business conditions or other reasons warrant.

How Awards Are Calculated. Of course, one of the most important rules is that according to which the amount of the awards is calculated. This is 25 per cent of the net yearly savings, paid in two parts and calculated as follows: The first payment is 12½ per cent of the estimated net yearly saving, and is made after the idea is installed, in operation, and the savings are apparent.

The second payment is made one year after the idea is installed. This will amount to 25 per cent of the savings actually realized, less the amount of the first payment. Careful records are of course kept, which indicate the actual savings during that year.

Net yearly savings are calculated from gross savings, less installation costs and materials and supplies made obsolete, with a pro rata charge for suggestion plan operational costs. If any awards are unclaimed, they will be donated to the Albany Community Chest, the American Red Cross, or the Rensselaer Boys Club.

Large Package Changeovers Cut Creeling at Limestone



FIFTEEN-INCH COILERS AND CARD CANS replaced 12″ x 36″ size shown for comparison (left). Compressor springs were installed on card calender rolls. Pounds per can increased 100 per cent. Right: 96-spindle, 12 x 6½ Whitin frames replaced 10 x 5 slubbers. This change increased weight of stock per package 100 per cent.

STAFF PREPARED
EXCLUSIVE

LIMESTONE Manufacturing Co., Gaffney, S. C., started a program of improvement in manufacturing operations several years ago to meet market conditions, and although there was some skepticism about trying some of the new avenues of improvement at the time, the results obtained with the changes are proof of the value of foresighted management.

Cards. Part of the program in the sheeting mill was the installation of 15″ x 42″ card sliver cans and coilers on 190 cards, thereby increasing the pounds per can 100 per cent. Formerly 12″ x 36″ cans were used at the cards.

After the can changeover, compressor springs were installed on the card calender rolls, thereby effecting an additional 25 per cent increase in pounds per can.

These changes permitted an increase in the time interval between card doffs amounting to two and one half times the former interval. Also, 143 man hours per week were saved on 190 cards.

Soon after the conversion, card production was increased from 10 to 14 pounds per hour, net. The four-pound increase was needed to meet styling requirements, and it was at this point that compressor springs were added to the calender rolls, thereby maintaining the same work assignments.

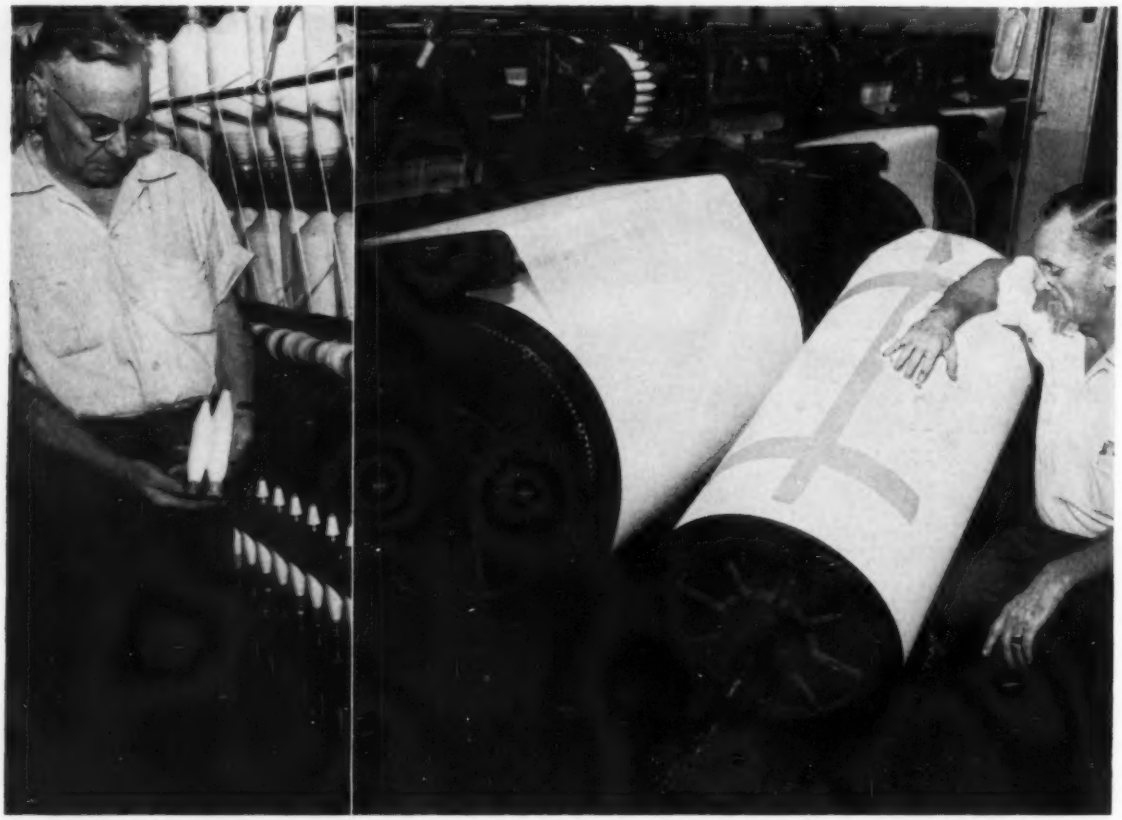
Quality was improved considerably at this process by reducing the number of splicings and piecings.

Drawing. 14″ x 42″ drawing cans were installed to replace 12″ x 36″ cans. This change resulted in an 80 per cent increase in pounds per can of drawing sliver. 143 manhours per week were saved on 124 deliveries of drawing running at 165 feet per minute.

At this process quality was also improved by the reduction in piecings.

Roving. 10 x 5 slubbers were replaced by 96-spindle 12 x 6½ Whitin frames. A 100 per cent increase in ounces of stock per bobbin with an attendant improvement in quality was noted with this change.

Large packages from drawing when creeled at the slubbers cut creeling frequency 80 per cent, and the large packages produced by the slubbers reduced the frequency of doffing in direct proportion to the increase in ounces



MEDIUM COARSE FILLING SPINNING was changed from 8" to 8¾" quills, requiring fewer doffs, and less battery filling in weave room (left). Right: Beam heads were changed to larger size throughout the weave rooms. X Model looms already had 26" heads; looms on order are to have 28" heads.

per bobbin.

Limestone was first to use a 96-spindle 12 x 6½ Whitin slubber, and pioneered this size machine. This frame uses about the same floor space as the standard 120-spindle 10 x 5 frame, thereby fitting into the production layout with a minimum of disturbance.

At the time this installation was made the largest standard size 12 x 6½ frame was built in 84-spindle units.

Spinning. The frequency of creeling in spinning was reduced by 50 per cent, with an appreciable reduction in labor requirements and machine downtime. Quality was improved at this stage by a reduction in roving splicings in direct proportion to the relation of package size.

On medium coarse filling spinning (Whitin High Draft) a change was made from 8" to 8¾" quills. Less frequent doffs and less battery filling in the weave room resulted from this improvement.

Weaving. On E Model looms the beam heads were changed from 20" to 22". X Model looms were already equipped with 26" heads. Looms on order are to be equipped with 28" heads.

Health Program May Add 10 Years to Working Man's Life

RELIABLE DATA, based on the experience of insurance companies, indicate that people who have an annual medical examination have a life expectancy of at least fifteen years longer than those who do not, H. F. Singleton of Blue Cross-Blue Shield of Alabama told those attending a recent Public Relations Meeting sponsored by the Alabama Cotton Manufacturers Association.

Recommending the adoption by textile manufacturing companies of a program designed to increase the efficiency and productive capacity of the employees by the prevention of illness through diagnostic services and by a sustained program of health education, Mr. Singleton said: "While this pro-

gram is not the equivalent of a full medical examination for every employee, it does provide the fundamentals of such an annual medical examination. There is sound reason for believing that a program of this kind will add ten years to the working life of the average employed person."

Some of the services offered by the program are: chest X-rays for tuberculosis, heart pathology, and lung cancer; blood tests for syphilis; rapid blood sugar tests for diabetes; blood pressure measurements, including weight and height; electrocardiograms for all employees 40 years of age or older and for others as needed; eyesight tests every second year; tests for glaucoma every second year; nutrition tests—hemoglobin determination; hearing tests every two years; routine urinalysis; liver function (thymol turbidity) tests.

Treatment is not a part of the program; when medical treatment or advice is indicated, employees are referred to physicians of their choice.

According to Mr. Singleton, benefits of such a program which would accrue to mill management are:

(1) Selection of employees with physical health adequate to do the job assigned through pre-employment examinations.

(2) Reduction of absenteeism and fewer accidents.

(3) Reduction of insurance costs for illness and compensation;

(4) Improved employee morale and, in turn, increased productive capacity and skill.

(5) Protection of investment in trained, skilled employees.

(6) Less labor turnover.

(7) Reduction of cost of dependency and indigent medical and hospital care. Taxation for this purpose will be less.

(8) Stabilization of economy by protecting earning power of employed persons and profit-making ability of business and industry.

Employees will benefit, he said, because:

(1) By diagnostic activity, pathology and impairment are found before disabling illness occurs. Prevention is cheaper than treatment.

(2) By education and evaluation clinics, the individual is encouraged to go to his personal physician for care and treatment if needed.

Ultrasonics in the Textile Industry—A Progress Report

Considerable TI reader interest has been expressed in two New Equipment Parade announcements covering ultrasonic transducers and their generators (July 1955, p. 145; Dec. 1955, p. 178). The use of high frequency sound in a liquid medium results in cavitation or "cold boiling;" this agitation can replace the energy obtained by high temperatures usually required in dyeing, scouring, padding, coating, and mixing textile chemicals and coloring materials.

The extent to which reductions in time and temperature levels can be made, and for which wet processes ultrasonics is most efficient is not yet known; most work done by mills to date is still on a lab scale. This is a report on some of the results of this work.

STAFF PREPARED

EXCLUSIVE

A SOUND WAVE of ultrasonic frequency (beyond the upper limit of hearing) of sufficient amplitude forms cavitation bubbles in a liquid. These bubbles collapse and generate shock waves which can number several hundred thousand per second; the accompanying pressures created range from several hundred to 100,000 atmospheres.

The nature of ultrasonics can be likened to the effect observed when a dyebath is heated with live steam: When the steam is first introduced, the bath and even the dye kettle vibrate, accompanied by a characteristic loud, uneven noise. As the temperature of the bath rises, a sound is produced which becomes higher in pitch until it is inaudible.

Magnified many times, induction of an ultrasonic transducer in a liquid at room temperature has much the same mechanical and chemical effect as does the inaudibly vibrating kinetic energy created by the steam in the dyebath. While this parallel explains some of the effect of ultrasonics in a liquid, it is not the whole story: Cavitation not only creates high molecular velocity but also "stretches" liquids, producing a series of characteristic effects.

Ultrasonics can be put to work in many ways. The mechanical agitation resulting from the pressure of the continuously collapsing cavitations can grind suspended particles to 1/150 micron in diameter, can disperse them uniformly in the solution within the effective field of the ultrasonic source, and can open up fibrous materials suspended in the solution. In industry, this is used to reduce the size of particles and distribute them uniformly in the preparation of emulsions.

The intense agitation of ultrasound can also be used to clean hard surfaces such as metal, and to perform a drilling function when an abrasive is introduced.

Chemically, cavitation can liberate entrapped gases from a liquid or porous material such as textile fibers and certain metal alloys. Such degassing is commonly employed to drive oxygen, carbon dioxide, and other gaseous members from liquids in process where they are a source of difficulty and in which their expulsion accelerates in pregnations or reactions in the solution.

Ultrasonic Equipment. Ultrasonic waves are set up in a liquid by a material which vibrates through a rapid succession of

changes in dimension and transmits the vibrations as pressure waves to the liquid in which it is immersed. Three general types of materials are known to be suitable for use as transducers or materials which will vibrate satisfactorily: piezoelectric quartz crystals, piezoelectric ceramics, and certain iron and nickel alloys which can be magnetically made to change dimension. All are activated by a high-frequency alternating current.

Ceramic transducers are usually cylindrical in shape, and the metals are rod-shaped or in the form of a disk. The latter type is known as a magnetostrictive transducer.

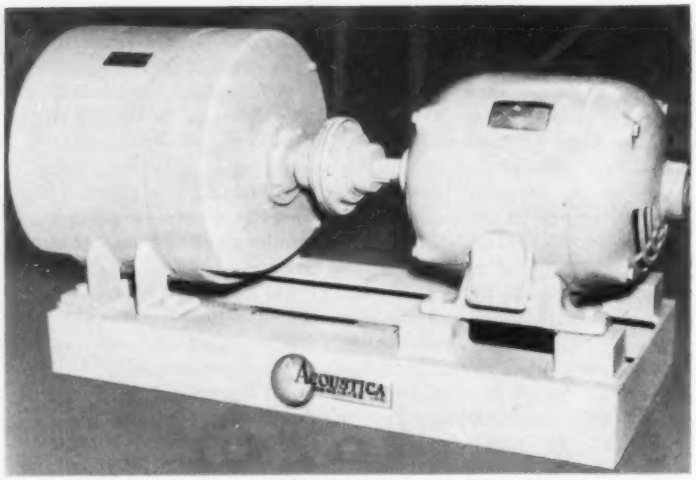
Magnetostriction transducers are generally more rugged; they can be placed in boiling water, but are more expensive than the ceramic type, which must be used at temperatures under about 195 F. Objection to use of ultrasonic equipment in the past has been the high cost of the units required to generate the high frequency a-c current. This, however, has been recently overcome by ultrasonic equipment manufacturers.

One such specialist, Acoustica Associates, Inc., Glenwood Landing, Long Island, N. Y., has developed 20-kilocycle motor-driven a-c generators ranging from 2 to 150 kilowatts. Generally, costs for ultrasonic systems (generators plus transducers) are about $1.00 per watt for power sources of 50 kilowatts and above, and about $2.00 per watt for units below that.

Power costs will vary with the cost of local supply; one example: a 5-kilowatt alternator supplying 10 transducers arranged in tandem in open width equipment of 50 to 60 gallon capacity costs about 3.5¢ per hour (based on a rate of 7 mills per kilowatt hour).

The power of the a-c source required depends on the number of transducers used; this number, as well as transducer type and arrangement, plus the function performed by the set-up cannot be standardized. Equipment must be engineered to meet the requirements of a specified job.

Generally, the transducers can be immersed or attached as is, or can be adapted to any production equipment which contains a liquid bath. Practical objectives of installations include the economics of selection and placement of transducers in a bath to effectively "cover" materials in the bath or running through it at high speeds.



A GENERATOR FOR ULTRASONIC TRANSDUCERS. It consists of a 15-hp motor and a 5-kilowatt a-c generator, producing 20,000-kilocycle frequency current. Such a unit can supply 10 transducers in the bath of a wet process.

Experience with Ultrasonics

All cases cited herein consist of trials made on laboratory scale equipment. Such units are built to provide sufficient power to activate one transducer which irradiates a container such as a 500-ml beaker with ultrasonic energy. Dyeing, scouring, or impregnating recipes are made up in the containers and textile materials are immersed in the bath.

Dyeing. In testing several formulas in the ultrasonic lab equipment on natural fibers and certain synthetics, it has been generally observed that maximum dyeing effect was obtained in about two minutes at temperature ranges of from room temperature to 160 F. After the two-minute period, continued immersion in the test beaker showed no appreciable effect.

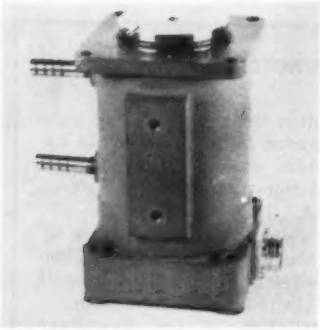
In performing an ultrasonic dyeing and a normal beaker dyeing with stirring side by side on viscose rayon samples under a control of 140 F for five minutes in both dyeings, the ultrasonic bath exhausted ⅓ again as much dye on the surface of the sample as did the normal beaker dyeing.

An Acrilan-Vicara blend (50-50) was dyed in an ultrasonic bath at 170 F in 30 seconds; the prospects of carrying out dyeings on Arnel at accelerated rates as indicated by these results are interesting: this Celanese fiber was dyed navy blue (Eastman Blue GBL, two per cent owf) in 15 minutes at 120 F without use of accelerants.

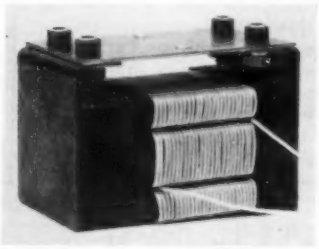
One ultrasonic dyeing project concerned a mill requirement to speed up dyeings on both nylon and rayon cakes. Room temperature trials resulted in level dyeing of cakes from outside-in in a time cycle 70 per cent less than normal dyeings. This test was made using a specially designed barium titanate (ceramic) transducer requiring about 200 watts of applied power at a frequency of 29 kilocycles. The cylindrical shape of this transducer lends itself to commercial scale use as a cake holder as well as an ultrasonic source.

Trials on filament nylon hosiery dyeing indicated more rapid coloring of toe, heel, and welt than in the body of the stocking. It was pointed out by the mill that this represented no problem, since retardents in the bath will overcome the condition. Optimum temperature for lab dyeings of the hosiery was found to be about 145 F in a two- to five-minute dyeing cycle.

A large woolen mill made dyeing and scouring trials a few years



ONE TYPE OF TRANSDUCER, a water cooled magnetostriction unit, is designed to be attached to the outer side of a tank with the resonator (disk-shaped piston at top) projecting in the tank from three to six inches from the material in process.

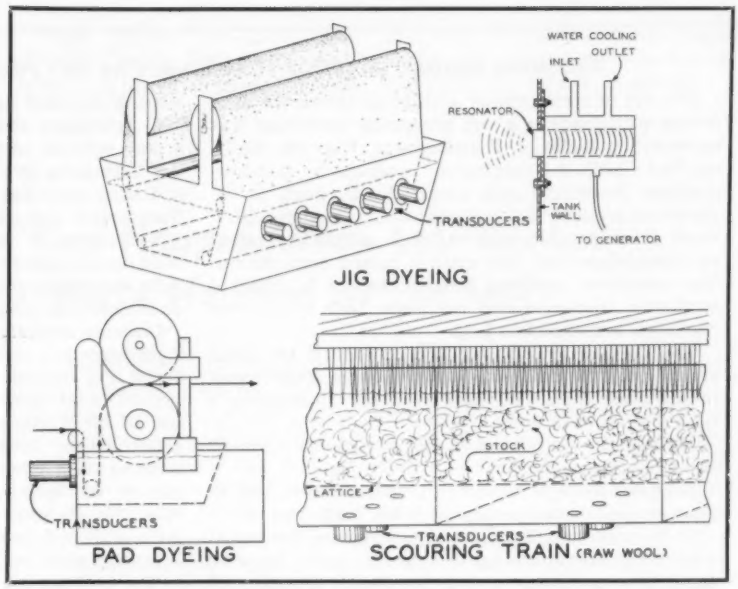


AN IMMERSION TRANSDUCER, also a magnetostriction type, can be bolted to submerged fixtures. Resonating surfaces here are both ends of the transducer. Magnetostriction transducers are acid-, alkali-, and high-temperature-resistant.

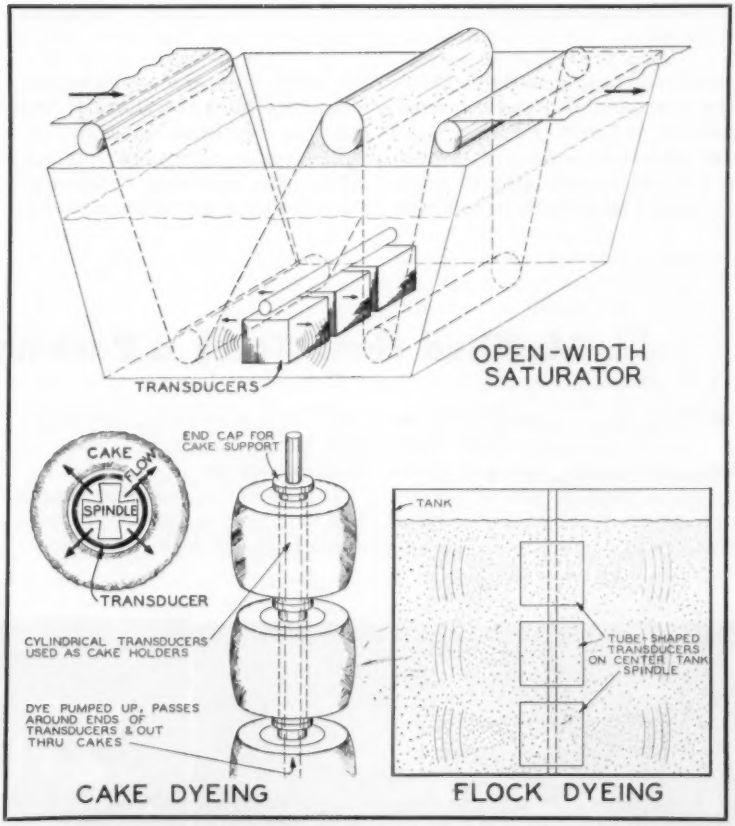
ago using quartz crystal transducers at very high frequencies (512 kilocycles). At that time, the equipment was not economically practical but the mill observed that prospects for rapid scouring and dyeing of raw stock and top were good.

In flock dyeing, the finely cut material normally processed in an open tank packs down with accompanying air entrapment. Penetration is usually a problem and to overcome it the flock is kept in motion by stirring. The cavitations of ultrasonics agitate a flock dyebath sufficiently to permit dyeing acetate flock with acetate colors in about three minutes.

Scouring. The effects of ultrasonics on fiber masses such as raw wool in scouring are lofting and prevention of matting, pilling, and felting. Ultrasonic agitation in



EXAMPLES OF EXTERNAL TRANSDUCER USE. Approximately each eight inches of tank width requires one transducer to properly "cover" materials in process.



EXAMPLES OF IMMERSION TRANSDUCER USE. Type, shape, and arrangement of transducers depend on the job to be done. Sometimes wet processing equipment must be adapted for inclusion of ultrasonic units as is the case with the flock dyeing unit.

PROGRESS ABROAD IN USE OF TURBULANCE AS WET PROCESS ACCELERANT

The use of mechanically oscillating bodies for producing turbulance as a wet processing accelerant was reported in *Melliand Textilberichte,* Vol. 36, No. 1, pp. 74-80, 1955. A "Turbinator" produced by Maschinenfabrik Benninger AG, Uzwil, Switzerland, is reported to produce an oscillating rotary motion with a small angular deflection and high frequency around its longitudinal axis. The cloth is passed along its finlike operative surfaces, which produce a constant oscillation transmitted to the whole bath even when the latter is two meters long.

The Turbinator sets the bath in motion vertically relative to the cloth; the cloth vibrates transversely at the same time. This unit oscillates similarly to a doffer comb on a card.

Jig dyeings carried out in test equipment produced the following results:

1. Direct dyeings on cotton poplin at 90 C (194 F) gave greater shade intensity with the Turbinator.

2. Dyeings with Turbination can replace the use of elevated temperatures up to a certain point. Elevated temperatures, however, are beneficial for dyestuff fixation.

3. The Turbinator had a strong effect on dyeing a nylon twill at 90 C with use of an acetate dyestuff. This points to a contribution to dyeing synthetics with the disperse dyestuff class.

4. Artificially soiled cotton test fabrics washed with a soap solution with Ultravon W indicated a use for the Turbinator in full width washing. A temperature and time cycle reduction from that required without Turbination was observed.

5. Removal of caustic soda from cotton goods by washing in presence of the Turbinator was possible, with indications of heat savings. This was of interest as it applies to after-treatment of mercerized goods.

Commercial-scale installation of the Benninger Turbinator in a standard jig in vat dyeing runs at one Swiss mill resulted in more rapid dye pick-up and improved penetration than by the same method without use of the Turbinator. After 14 ends (passes) of the cotton fabric, dyed with use of the Turbinator and without the highest temperature stages normally employed, the dyeing was reported to be better than it was after 20 ends without use of the Turbinator but with elevated temperature. This was reported to represent a 30 per cent time saving.

The tendency for the goods dyed with the Turbinator to appear lighter in shade than a comparable dyeing without use of this device was attributed to the fact that more of the dye picked up in the Turbinator-serviced bath penetrates to the interior of the fabric.

trials permitted a general temperature reduction in wool scouring from 190 to 160 F.

A series of runs on felt pads ¼ inch thick containing 15 to 20 per cent of grease and oil in which the pads were immersed in normal scouring solutions resulted in 100 per cent extraction of impurities in 30 seconds under ultrasonic agitation. The degassing function of the transducer permitted instantaneous emulsification of oil and grease; agitation in the vicinity of the felt drove most of the emulsified material from the felt and mechanical action (squeeze rolls) removed the balance.

Modified Hand Truck a Packing Expedient

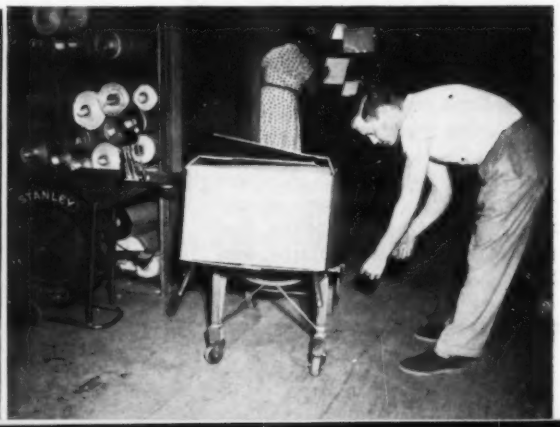
PIECE goods are packed in cardboard containers with some difficulty usually, because metal strapping must be passed around all six sides of the package, one of which rests on the floor. The carton is then placed on a hand truck and moved to storage space or trucking vehicle.

This operation has been simplified at Schwarzenbach Huber's Juniata, Pa., plant by modifying a hand truck as follows:

Cross bars containing grooves were welded to the top of the truck. The grooves in the cross bars hold and guide metal strapping as it is fed between truck and

Photo 1

Photo 2



carton. Also, a pair of casters was welded onto the truck supports back near the handles.

Photo 1 shows the truck as it was modified by the mill. **Photo 2** shows how the truck holds a carton and how shipping clerk can easily insert strapping between carton and truck through the grooves.

Here's What Can Happen When Lubricants Are Not Properly Handled at the Mill

MANY things can happen to a lubricant between the time it is received at the mill and the moment it is applied. For example, such things as careless handling, contamination, confusion of brands, exposure to extreme temperatures, and leakage can result in damaged equipment, excessive maintenance cost, lost production, loss of lubricant, fires, and accidents.

Leakage. Loss of lubricant from damaged containers, loose fitting plugs, or careless handling (spilling) represents product that the buyer has purchased but will not be able to use. He certainly would not expect his supplier to furnish him with drums that were only partly filled. Furthermore, he would never deliberately pour a portion of lubricant down the drain. Yet the final result would be the same as when lubricant is lost through careless and improper handling — it all adds up to waste.

Also serious are the safety hazards that are created by the spilled material. A lubricant is designed to reduce friction when there is motion between two parts in contact, but not when one of the elements is the sole of a shoe and the other is the floor. Many bruises and broken bones have been caused by falls on oil-slick floors. Oil on the floor is very hazardous, particularly when the colors of the two blend so that it is almost unnoticeable. Spilled oil also creates a fire hazard, particularly in certain areas.

Thus, in the interest of both economy and safety, loss of lubricant through leakage and mishandling should be kept to an absolute minimum.

Contamination. Contamination of the lubricants with foreign material is also something to be avoided. All contamination is undesirable, but the extent of the damage that results will vary, depending upon the type of lubricant and the nature of the contaminants. In general, lubricants that contain additives will be affected more adversely than will straight mineral oils. For example, a little moisture will not result in permanent damage to straight mineral oils. They may become cloudy but will clear up after standing, as the moisture settles to the bottom. Certain additives, however, may be water sensitive, and may be removed partially or completely by contact with just traces of water. Also water will cause separation or lump formation in certain type greases.

Contamination with dirt, dust, or other solid bodies can be especially harmful if not discovered in time. Not only do these materials accelerate oil oxidation and result in a shorter oil life, but also because of their abrasive properties, they can cause serious damage to the moving parts of the machinery with which they come in contact.

Thus, contamination of the lubricant is also something that should be avoided. At best, it can cause extra handling if discovered before the lubricant is used (filtering out solid particles or allowing water to separate). Furthermore, contamination may permanently destroy some of the important properties of certain additive type lubricants — properties which are essential for satisfactory lubrication of the equipment where the product is to be used. Finally, if the contamination is not detected, some very serious consequences can result, including damaged equipment, costly repairs, and lost production.

Storage at Extreme Temperatures. Exposure of lubricants to either abnormally high or low temperatures can result in temporary or permanent damage, depending on the nature and composition of the product. Again, it is the additive type products which are most subject to harm.

Of the two temperature extremes, contact with low temperature is by far the more prevalent due to outdoor storage of lubricants in areas where the weather in winter becomes very cold.

If nothing worse, lubricants and greases stored in cold areas become viscous and stiff, and in such condition they are very difficult to handle. Various means are commonly used to raise the temperature of the materials, some of which are not to be recommended. Where direct heat is applied, there is always the danger of developing local overheating which may ruin the lubricant. Exposure of greases to high temperatures may result in separation of the oil and soap, making them useless.

Confusion of Brands. To a good many people, including personnel associated with the operation of machines, oil is oil, and one is just the same as another. The properties of lubricants and the requirements of the equipment mean little or nothing to most machine operators, and upon finding their machine in need of lubricant, they may use whatever material is nearest at hand, especially if it "looks right." Obviously the chance of this occurring is slight in a plant where the handling, dispensing, and application of lubricants is centrally controlled and is supervised and administered by quali-

Extracted from the September, 1955, issue of *Lubrication*, a technical publication of The Texas Company devoted to the selection and use of lubricants.

fied personnel. However, this is not always the case, and the indiscriminate mixing of types and brands of lubricants does occur, sometimes with very serious consequences.

("Suggestions for Proper Storage and Handling of Lubricants" will be published in an early issue.)

You Can Prevent Those Mixed Yarn Lots

At Massachusetts Mohair Plush Co. there is a permanent red light for mixed yarn lots. It's kept red by an inspection and identification system plus a motto: "Any deviation from standard is wrong."

STAFF PREPARED
EXCLUSIVE

THROUGHOUT ANY MILL in which large numbers of yarn packages of a wide variety of count and fiber content are commonly handled, mixed lots are a hazard which can cause expensive damages, particularly in high priced finished products. This problem has been solved at Massachusetts Mohair Plush Co., Lowell, Mass., by installation of a comprehensive yarn inspection and identification control concentrated in the twisting, winding, and packing departments.

The Lowell mill, along with the company's Salmon Falls, N. H., branch, makes a wide variety of goods, which include transportation, automotive, and home upholstery; drapery goods; and industrial pile fabrics. Principal raw materials are wool, mohair, synthetics, metallics, and blends thereof; facilities accommodate unsorted grease fiber.

The spinning system is Bradford, and yarns so produced are both sold for knitting and weaving trade use and woven in the company's own heavy Jacquard and shaft flat, and Jacquard and shaft plush looms.

Production from both mills is dyed and finished at the Lowell plant.

As a result of this wide diversity of activity, a great variety of fiber and counts exists in the spinning department; there are literally hundreds of thousands of bobbins, tubes, and cones in process at one time.

Here's how Mass. Mohair has provided for keeping things straight:

Identification. Depending on the type of package and process involved, identification is carried out by a combination of ticketing and coloring. The latter is done in several ways: chalk marking package sides, using color tipped or all-colored tubes and cones, and applying a fugitive tint to the yarn.

In connection with the coloring system, one serious problem that arose was color blindness in personnel dealing with the yarns. This was worked out by giving color blindness tests to all those coming in contact with yarn identification and switching color-blind operators to other stations.

Generally, colored chalk for bobbin identification is used in the processes up to and including spinning. As is the generally accepted practice, this marking is applied on the side of the package just before doffing.

This chalk marking is carried out in the same way in twisting, but in the winding operation identification passes from chalk mark to package color. A blackboard on which is written all counts, lot numbers, and the corresponding chalk mark and package name and color is referred to as the key to identification. An accompanying photograph illustrates this system.

Ball warps are another package type that requires identification. The practice here is to apply a fugitive tint at warping, along with an identifying ticket.

Inspection. The second phase of the control for mixed lots is the inspection system. This is the most effective control because it is a positive check for proper color markings and general appearance. Inspection is done at two places: after twisting, and after winding. In both instances labor cost of the operation is reduced by combining the inspection with another operation; the twisting inspection can be combined with a run through the conditioning machine to add moisture where required, and the inspection after winding is done in conjunction with packing.

These two inspections are dependent on a specially designed table, which was conceived and built at Mass. Mohair. Trucks loaded with yarn packages to be examined are pushed into a cage which is attached to the inspection table by a pair of hinges. The cage is a box-like open framework with the hinges at the upper edge of one of its long sides. Attached to each corner of the lower edge of its opposite long side is a heavy cord which is fastened at the junction to the hook end of a ceiling hoist. By raising the hoist, the cage with its housed truck, is tipped over and the contents dumped onto the table.

The twisting or first inspection has several functions. Besides picking out color-marked bobbins which are out of place, the following defective work is separated: mis-plies, uneven yarn, mixed yarn, tailless bobbins (tail used for multipackage warping hook-up) and removal of short bobbins where yarn is being kept at a measured, knotless uniformity. Any of these irregularities can contribute to bad cloth if allowed to remain mixed in with the lot.

The twister inspection table is fitted at its end with a conveyor belt which feeds into the conditioning unit, which is designed to boost moisture content to standard regain and/or add a wetting agent to the yarn on bobbins. By dropping the inspected bobbins onto the belt they are brought into the

1. BLACKBOARD IN WINDING DEPARTMENT is key to chalk and package color for each of the lots being spun.

2. INSPECTING TABLE CAGE is shown being loaded with truck. This is the twister package inspection.

3. TRUCK AND CAGE ARE TILTED by mechanical hoist hooked to bottom corners of cage, dumping bobbins onto inspecting table.

4. TWISTER INSPECTION of bobbins is made for color, mis-plies, unevenness, and tailless bobbins. Conveyor feed to conditioning machine (left, rear) can be activated if moisture boost or wetting-out is desired.

5. DELIVERY END OF CONDITIONING MACHINE, showing relationship to twister inspection table (center, rear). Cost savings in inspection labor are realized by combining the two operations.

6. THE SECOND INSPECTION is done at packing. Here, Frank Orrell, spinning superintendent, shows how tubes mechanically dumped onto inspecting table are inspected on the end for irregular yarn layers.

machine; if not desired, bobbins are piled into a truck for ultimate transportation to next operation.

Final or packing inspection is more rigid and detailed than is twister inspection. The tubes or cones are picked up and given a plan view inspection for poor package appearance; they are

then swung around to check on chalk and/or tube or cone color. Examination of the end of the package can turn up mixed lots and defective yarn by differences in appearance of yarn layers. Both package ends are checked for this reason. Some of the other irregularities thus detected are cone

7. TUBES ARE PACKED after passing second or packing inspection.

8. BALL WARPS, prepared in warping department following twisting operation, are identified in three ways: fugitive tint (left warp), ticket, and red paper pasted at top end of tube in left warp. The letter mark also is used to mark pull-off of warp; this marker is always at right of the ball warp.

9. SOME OF THE DEFECTIVE PACKAGES that have been separated include a tubeless package (front, left), a soft tube (front, right), and cone latches (right, and left rear).

10. THE CONTROLS ARE SUMMARIZED by charts like this. Another one, hung at packing inspection, is identical in content.

11. TWISTER BOBBINS can be chalk marked on side of packages just before doffing.

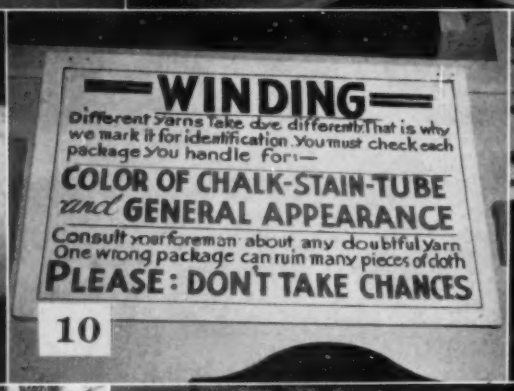
12. WINDING IDENTIFICATION is based principaliy on colored paper tubes.

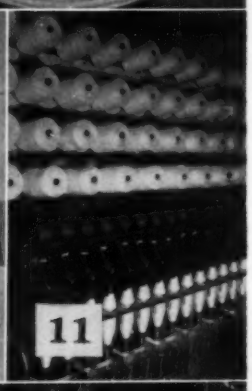
13. SOME OF THE IMPORTANCE of keeping yarn lots straight and free of irregularities can be appreciated by seeing the expensive product of the creel-fed Jacquard plush looms; it is virtually impossible to burl and sew a mixed end in this class of goods.

7

8

9


WINDING
Different yarns take dye differently That is why we mark it for identification You must check each package You handle for:—
COLOR OF CHALK-STAIN-TUBE
and GENERAL APPEARANCE
Consult your foreman about any doubtful yarn One wrong package can ruin many pieces of cloth
PLEASE: DON'T TAKE CHANCES
10


11

12

13

latches, soft winding, and missing tubes.

Cases and cartons are placed near the packing inspecting table and OK'd packages are dropped into them after inspection.

Making The System Work. In either inspection or at any stage of spinning, twisting, or winding, detection of irregularities is never a half-way propositon. If the color or appearance is not exactly right, the package is rejected. Any deviation from standard procedure is considered wrong.

As a final control, all of the details listed to this point have been summarized in chart form; the charts, one each for winding and packing departments, are hung near both inspection stations. These signs are shown in the accompanying photographs.

The results of this program have been worthwhile. Within the plant's own integrated operation, less than 0.2% of cloth seconds produced are caused by mixed yarn from all sources—a figure which is, in terms of yardage, practically nil. In the sales yarn end, there has not been a claim on Mass. Mohair by a customer for reasons of mixed lot for 11 years.

"Fine Example" of Mill-Machine Builder Cooperation

A TEXTILE machinery firm recently received a real "assist" from two mills when they cooperated to launch a new machinery development.

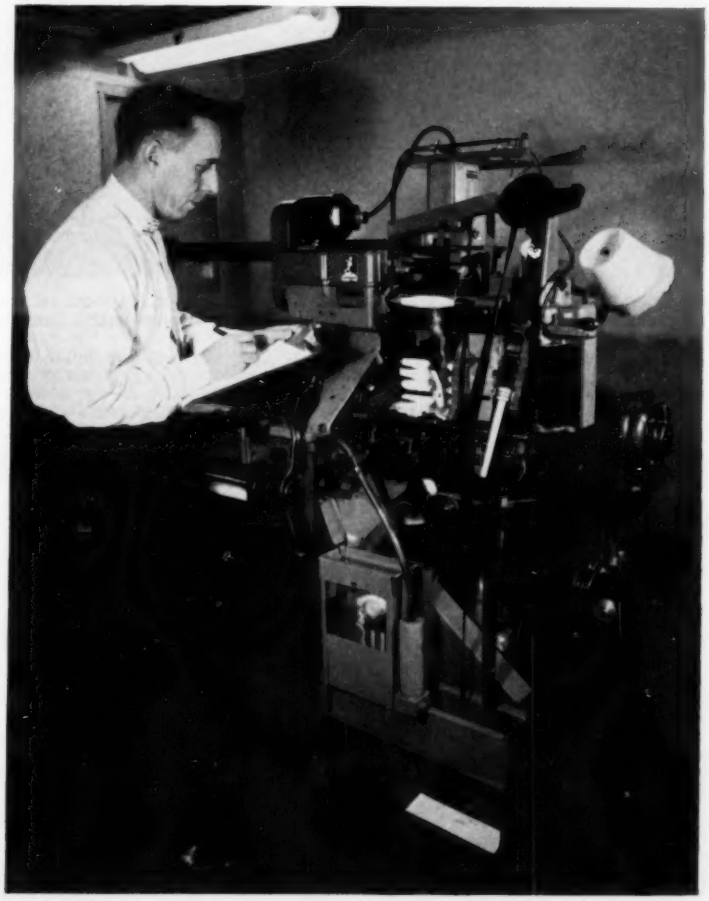
Ponemah Mills of Taftville, Conn., and Amerotron Corporation of Aberdeen, N. C., agreed to put up over half a million dollars between them for 500 each of Universal Winding Company's new Unifil Loom Winders.

The Unifil, which combines winding, bobbin transportation, magazining, and stripping into an automatic procedure that takes place right at the loom, was first introduced to the public at the American Textile Machinery Exhibition in Atlantic City in 1950 [TEXTILE INDUSTRIES for July, 1950, p. 168]. Since that time extensive field tests have been conducted.

Universal states that the Bates Manufacturing Company and The Chicopee Manufacturing Company were of great assistance by testing a sizeable quantity of models under mill conditions over the last three years. Detailed time studies and operational checks were made by Universal and mill personnel. Results were confirmed in an independent study by Barnes Textile Associates. The economics showed a four-year write-off on 150 denier operation, and indicated that an even faster write-off could be expected on cotton and spun rayon.

Field testing continues currently at Hoosac Mills, New Bedford, Mass., Pansy Weaving Mills, Central Falls, R. I., and at Ponemah. These extended trials are being conducted on a wide variety of spun yarns and fabrics to complete the full range evaluation. Amerotron will soon have 15 Unifils at their Red Springs mill in North Carolina to prepare mill personnel

FUNCTIONAL CHECK of a test unit is made by Robert Morton, Universal development engineer who has worked on the Unifil Loom Winder development since its beginning.



for the forthcoming 500-unit installation.

Robert Leeson, president of Universal, said: "I believe that the assistance of Amerotron, Ponemah, and the mills who helped bring the Unifil program to this point of success is a fine example of the continual cooperation between the textile mills and machinery makers.

"Our first manufacturing lot will be limited to the 1000 units purchased. We hope that in six to eight months we will be in a position to accept production orders for delivery in 1957."

Huntsville Set Up an Assembly Line to Rebuild Looms

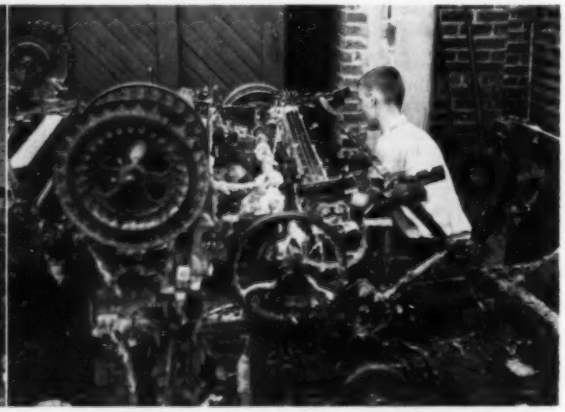
STAFF PREPARED

EXCLUSIVE

HUNTSVILLE Manufacturing Co., Huntsville, Ala., has undertaken a loom rebuilding program, during which 836 Draper E-Model looms will be completely modernized. The program also includes refinishing of the weave room floors while the looms are being rebuilt.

The looms are being rebuilt on five assembly lines set up in part of a warehouse. Each assembly line turns out one loom per day; 36 right-hand looms are built, then 36 left-hand looms, alternately.

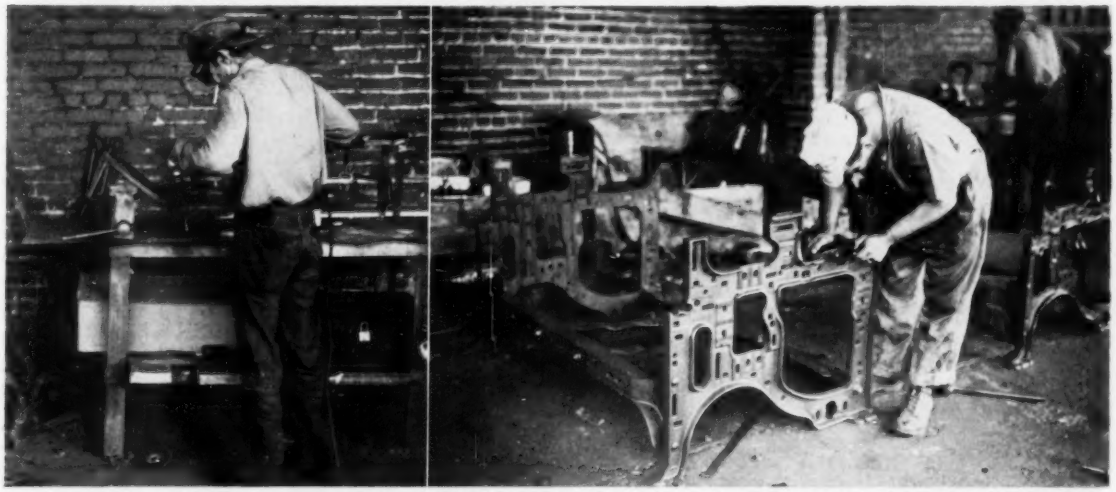
The following photos and captions give the highlights of the program.



LOOMS TO BE REBUILT are hauled from weave room to loom rebuilding shop on truck with specially built crane. First step in the rebuilding process is to dismantle the loom completely, using a pneumatic wrench.

LOOM PARTS which can be reused or recovered are put in metal basket for cleaning (left). Obsolete parts or parts too worn for recovery are scrapped (seen at left in first photo). Right: Baskets containing loom parts, and all loom sides, girts, arches, etc., are boiled for 30 minutes in a solution of Oakite Composition No. 99 (for grease removal) and Oakite Stripper M-3 (for paint removal). When the loom parts are removed from the vat, any residual grease clinging to them is washed off with a fire hose.

AFTER CLEANING, loom sides are dipped in green paint; all black parts and thread holders are also dip-painted. Girts, breast beams, and arches are brush-painted.



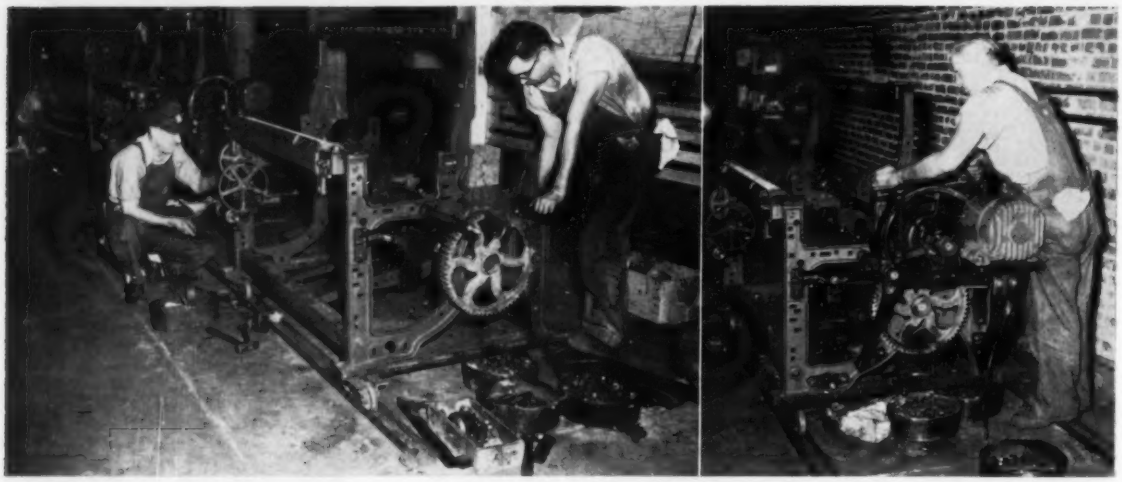
ALL LOOM PARTS are recovered, if possible. Machinist, shown at left repairing hand wheel, fills all breast beam and loom-side dowel pin holes with bronze; shoulders on loom sides are built up with nickel cast iron and machined down by a local machine shop. Framer (right) rebuilds all frames. All bolt holes in the loom sides and girts are reamed out to take ½-inch bolts instead of the original 7/16-inch bolts. Framer puts on frogs, replaces rubber frog cushions with steel springs.

REBUILT LOOM FRAME is put on dolly and taken to one of the five assembly lines, two of which are shown in this photo.

(Continued next page)

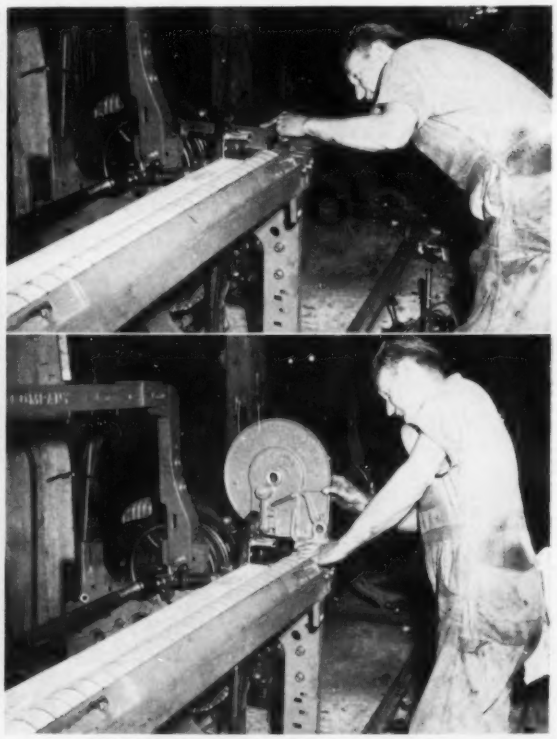
Rebuilding Looms at Huntsville

(Continued from preceding page)

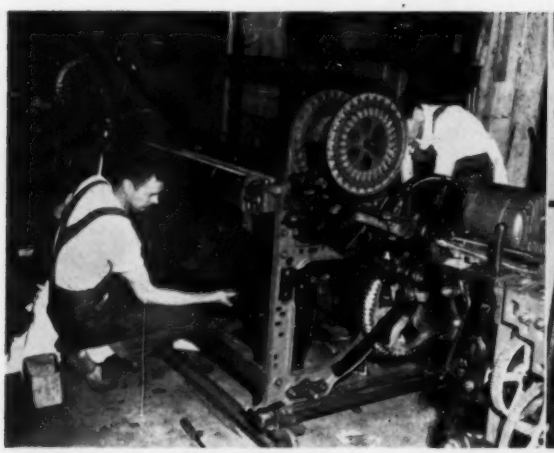


AT THE FIRST POSITION in the assembly line, all shafts are aligned and individual Westinghouse motors installed. A new-type brake is put on the loom, and the shipper motion installed. Lubrication is converted from oil-type to grease-type on the pick shaft, crankshaft, camshaft, and take-up roll bearing. A new pick shaft is installed, similar to that on X-model looms. Take-up rolls are installed and aligned. The lay is clamped into the loom at the first position on the assembly line, the swords clamped and regauged, and a rubber shim placed between the rocker shaft and sword cap. The one-piece rocker shaft is replaced with a three-piece shaft.

THE LAY IS BUILT and set by gauges in a separate frame. One frame serves all five assembly lines. At this point the old-type back box is replaced with an adjusting-screw back box. Wooden crank arms are replaced by new spring steel crank arms.



AS THE LOOM CONTINUES down the assembly line, one man gauges and sets all hopper stands, and also installs and gauges shuttle feelers. Swinging bobbin supports are installed.

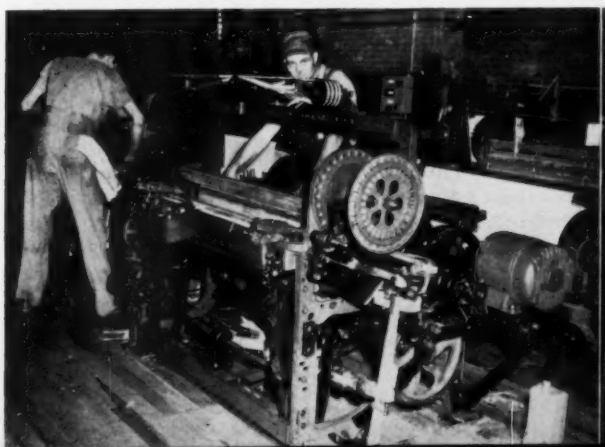


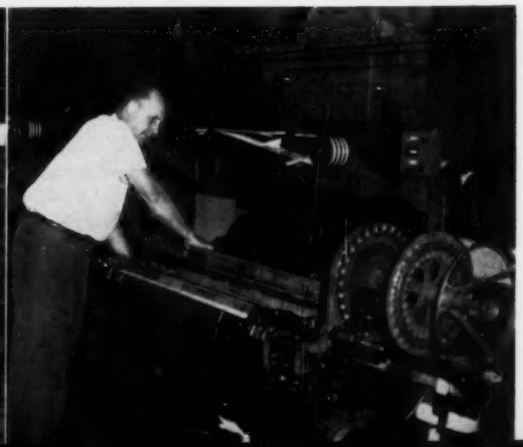
AT THE LAST POSITION in the line, a front man and a back man, working together, install a pin-and-sleeve-type parallel, and new slack pawl construction. The harness motion is converted to four-harness spring top, with four-harness staggered cams and positive pull-down jacks. Adjustable temples and temple slides are installed, and the warp stop motion is put on the loom. The front man builds the cloth take-up traverse, filling stop motion, protection motion, and take-up motion, and installs the rocker shaft center bearing. The back man builds the harness motion and let-off, and installs the pick clock. All parts are set and checked by gauges.

AFTER LOOM IS COMPLETELY REBUILT, it is given a thorough check by foreman of the assembly lines.

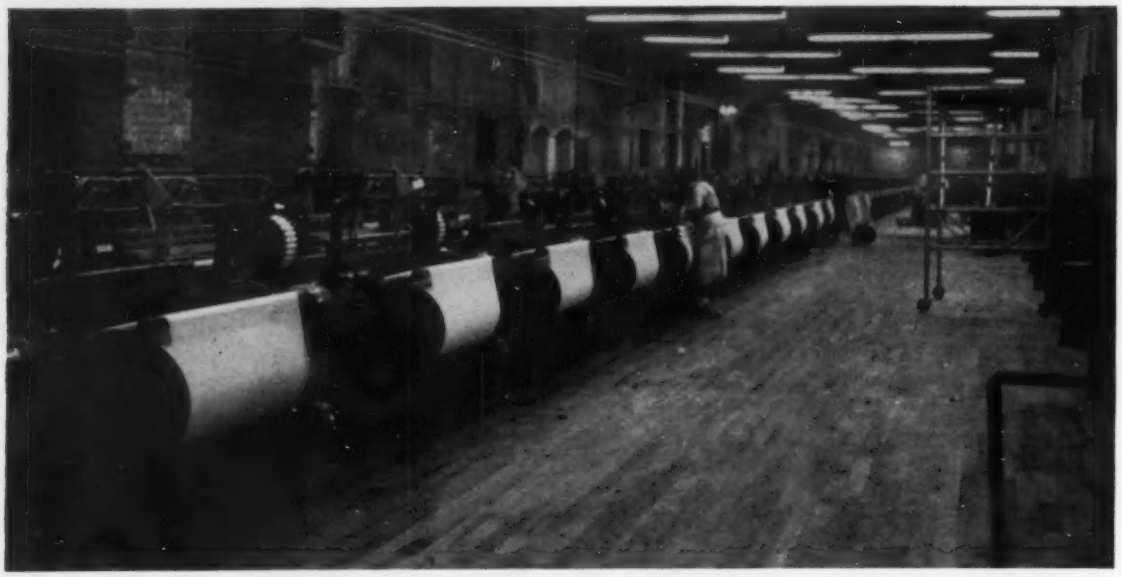
LOOM IS TAKEN FROM REBUILDING SHOP on dolly to be hauled to weave room.

AFTER LOOMS ARE PUT IN PLACE in the weave room, they are lubricated, and then rocked for about eight hours before a warp is put in. Overseer of weaving inspects loom before it is put into production. *(See p. 120)*





Rebuilding Looms at Huntsville *(Continued from preceding page)*



FLOORS ARE REFINISHED while looms are being rebuilt.

Suggestions For Dyeing of Acrilan-Wool Blends

BY WALTER H. HINDLE
The Chemstrand Corporation

THE DYEING of Acrilan-wool blends into union shades falls into two steps—namely, the exhaustion of the wool dyestuff onto the wool component and the subsequent transfer of that dyestuff onto the Acrilan in the second phase by the addition of sulphuric acid to the bath in which the cation transfer material is present. A typical procedure is as follows:

After the goods have been prepared for dyeing, 2% of a nonionic such as Emulphor ON (G. D. C.) is added to the bath and the goods are allowed to circulate for 10 minutes at 120 F. The required dyestuff, dissolved conventionally, is then added to the bath and circulated for 10 minutes. The cationic material, the amount of which varies in accordance with the shade to be dyed, is then added together with 4% formic acid. The temperature is then raised to the boil over 30 minutes. At this point 4% owg sulphuric acid is added and the dyeing is continued for 30 minutes when an additional 4% owg sulphuric acid is added and the dyeing allowed to continue for 2 hours or until equilibrium between the Acrilan and the wool has taken place.

Additions of dyestuff for shade adjustments are made conventionally. However, if it should be that tonal correction is required, this can be done by reducing the dyeing temperature which will reduce the transferability and render the wool component fully maneuverable.

At the conclusion of the dyeing period, the goods are cooled back slowly, rinsed and neutralized at 90 F in sodium bicarbonate. In the case of dark shades, it is customary to scour lightly at 120 F to give good washfastness.

The following is a list of commercially obtainable materials which are effective in promoting transfer of dyestuffs from wool to Acrilan: Nohcotex A (N.O.P.); Atlas G263 (Atlas); Peregal TW (G.D.C.); Decomine (Arkansas).

Chrome dyestuffs are applied by essentially the same technique. The after-chroming takes place in a second bath using half as much bichromate as dyestuff but not less than 0.3% and not more than 2.5% in the presence of 3% formic acid for 1 hour at 210 F. After chroming, the goods are washed and neutralized.

Acrilan-Wool Union Dyeing by Different Methods. Due to the deficiencies in light shades from a lightfastness standpoint of many acid dyestuffs on Acrilan, it is advisable for menswear specifications to change the dyeing technique from the transfer system to that of a, by now, conventional acrylic-wool technique. Basic or mixture of basic and dispersed acetate dyestuffs are employed on the Acrilan in conjunction with the neutral dyeing premetallized for the wool in the presence of an anti-precipitant such as Peregal

TW (G.D.C.). The dyeing is carried out at 205 F at a pH of 5.5 brought about by the use of 5% ammonium acetate. Shades can be usually matched in 2 - 3 hours and color matching is predicated upon a post dyeing scour at 120 F in Igepon T to remove possible wool stain. Lightfastness is usually of sufficient quality to meet menswear specifications.

Acrilan-Wool Resist Effects. In view of the fact that Acrilan dyes readily with wool dyestuffs, it appears somewhat contradictory to state that wool can be dyed to resist Acrilan completely. This is accomplished by filling the available dye sites of Acrilan with a "white" dyestuff such as are conventionally used to resist nylon and which have little effect if any on the dye absorbency of wool. Nylon Resist Salt (G.D.C.) performs excellently in this respect. The dyestuffs for the wool are selected from those that will exhaust at temperature around 185 F from weak acid.

A typical formulation for Acrilan white - wool brown is as follows:

Pretreat the scoured goods with 3% Nylon Resist Salt (G.D.C.) or Erional N.W. (Geigy) for 20 min. at 160 F, add dissolved dyestuff together with 2% Palatine Salt O and 4% Formic Acid, raise slowly to 200 F and dye for 45 min. at 200 F, then add another 4% Formic Acid and continue dyeing another 45 min. Rinse well.

For superior colorfastness chrome dyestuffs may be used to advantage in dyeing wool, leaving Acrilan white.

Acrilan-Wool Two-Color Dyeing. Acrilan and wool may be piece dyed into a full range of two-color effects by combining steps previously mentioned. The Acrilan component may be dyed into a full range of shades with selected basic and acetate dyestuffs. If the wool component is to be dyed a light shade also, the wool may then have to be cleared by the recommended clearing scour. If the wool component is to be dyed a dark shade, the clearing may not be necessary.

After the Acrilan has been dyed it is then resisted against further dyeing by a treatment with Nylon Resist Salt (G.D.C.) and the wool is dyed by the method described for wool dyed - Acrilan white effects.

It is believed that the cation transfer system will eventually be applicable in all shade ranges and when accomplished will represent a forward step in the dyeing of wool with man-made fibers.

FULLY AUTOMATED TEXTILE MILL. Here is an engineer's concept of the textile mill of the future. It appeared on the front cover of a recent issue of "Bulletin of Southern Research Institute," and here is the publication's comment regarding the illustration: "Fully automated, the mill achieves continuous production at extremely high speeds. These goals can perhaps be attained through electrostatic collection and alignment of airborne fibers (bottom, left) and the use of rotary looms that produce cylinders of fabric instead of sheets. Based on more than mere speculation, this concept is the result of practical and promising experimentation by engineers at SRL."

Continuous Yarn Making— it may be nearer than we think

BY SABERT OGLESBY, JR.
Head, Special Engineering Projects Section
Southern Research Institute

EXTRACT*

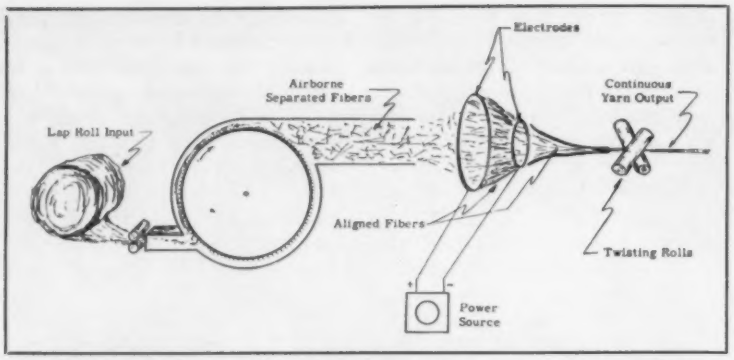
ACCEPTING the premise that production of yarn for woven fabrics will remain a substantial part of textile operations for many years, then it follows that a search for a continuous, automatic process for making yarn and integrating this process into textile operations is highly desirable.

Recently, engineering personnel at Southern Research Institute have done some interesting work on just such a process. This experimental work has not been extensive enough to indicate the exact design of the required production machinery, but it has clearly indicated the individual steps that could result in a continuous yarn-making process. Resorting to a little blue-sky thinking, the process might go like this:

Beginning with the picker or some modification of it to give the proper size lap, the cotton stock could be separated into individual fibers by the use of existing techniques. These fibers could then be doffed into a gentle air stream and conveyed into a chamber in which there were located small collection cells which would be charged electrostatically so that the fibers would be attracted to the collection cells and aligned with respect to each other in these cells. The fibers could then be withdrawn and twisted into a yarn (see accompanying sketch).

This arrangement would accomplish several functions. As the stock is separated into individual fibers, it can be effectively cleaned because the heavier trash would simply fall out. Also, the fibers could be collected in the proper density to give the desired yarn size, since the drafting would be accomplished in the air stream. The electrostatic field would align

*From the article "Automation for the Textile Industry" which appeared in a recent issue of the "Bulletin of Southern Research Institute."



ELECTROSTATIC COLLECTION and alignment of fibers with ring electrodes, followed by "free end" spinning.

the fibers so that they would be in a condition for spinning as they leave the collection cell. Furthermore, the collection end of the strand is free to rotate so that twisting of the strand could be accomplished by belts traveling in opposite directions in much the same manner as one would twist a cord by rubbing it between two hands. This method of twisting would permit the yarn to be made in a continuous strand and it could be wound directly on a beam or other package suitable for automatic processing in the subsequent stages.

Taken together, this process sounds far removed from present knowledge of making cotton yarn, but individually the steps in such a process are not. For example, separation of the stock into individual fibers is well within existing technology, and it is well recognized that cleaning of the stock can be accomplished once it is opened. It is also feasible to convey the fibers by an air stream to the collection cells.

Previous work at Southern Research Institute has shown that the individual fibers can be collected and aligned by an electrostatic field and that the twisting of the strand can be accomplished through "free end" spinning methods since the strand is not continuous.

By way of summary, there are many examples of the use of automatic equipment in the textile industry, and the use of this equipment in various phases of the process is a step toward automation. However, the goal in automation is not to stop with automatic processes but to integrate the entire operation so that production is continuous and automatic from the raw material to the final product.

Achieving this goal in the textile industry will require a rethinking of the process in terms of other methods of arriving at the desired product. Fortunately, there are people within the industry with imagination and the desire to think in terms of new processes and new techniques, and although it is difficult to predict exactly how it will take place, it is safe to predict that automation will find its way in the textile industry just as certainly as it has in many other fields.

Pneumatic End Collector Improves Spinning

STAFF PREPARED
EXCLUSIVE

FORTY-EIGHT 276-spindle warp spinning frames were equipped with pneumatic broken end collectors in March, 1955, at one North Carolina combed yarn mill. The frames are Saco-Lowell SS-1 Shaw, and operations were improved enough to increase sides from twelve per spinner to sixteen per spinner.

This 12,250-spindle mill runs 18s to 30s single combed cotton yarns from 1 1/16" Delta cotton.

Fewer Ends Down. The pneumatic end collector eliminated 10 to 15 per cent of "whipped yarn." The whipped yarn condition prevailed when an end broke but extended several inches from the front roll before being picked up by the scavenger roll, thereby getting caught on adjacent ends.

Ends down have been reduced 10 per cent by eliminating whipped yarn. This permits the spinners to concentrate on quality instead of fighting lap-ups. The spinners feel that the pneumatic end collectors have actually made their jobs easier.

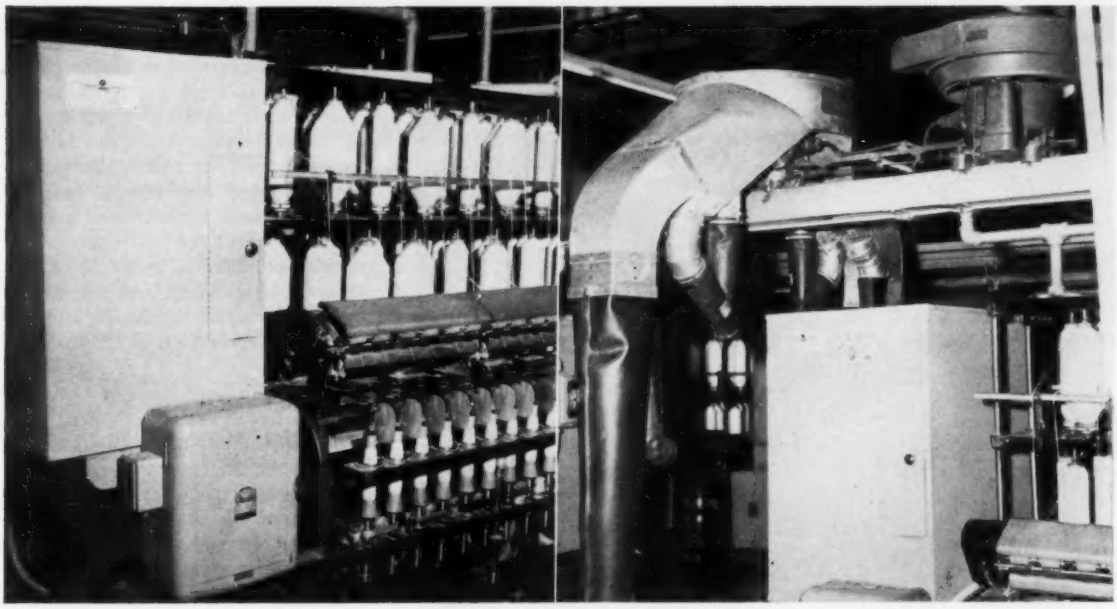
Slub yarn caused by ends coming down at fast front roll speed, and which is not immediately picked up by scavenger roll, has been completely eliminated.

Better circulation of air and distribution of humidity now prevails throughout the spinning area, as measured by a sling psychrometer. Dry and wet spots in the spinning area have been practically eliminated.

Scavenger roll waste (as collected by the system) is torn up enough to be added directly into opening equipment for rerunning without reworking.

Maintenance Reduced. A spokesman for the mill said that vacuum at the end collector orifices is strong and more than adequate for the job. This equipment has reduced the fixers' job loads by cutting apron and roll replacements resulting from lap-ups. Also, the fixer often had to cut laps from steel rolls when the spinner got overoaded or didn't have time.

To date there has been no excessive maintenance on the equipment, and management is happy with the equipment and performance. The rubber hose connectors from the plastic end collector tubes to central collection tube deterior-



PNEUMATIC END COLLECTORS on Shaw SS-1 spinning permitted increase in sides per spinner from 12 to 16.

OVERHEAD CLEANER was installed before pneumatic end collectors; it reduced manual cleaning by 50 per cent.

ate with heat and oil but the equipment manufacturer is replacing these parts at no charge. Connectors are being replaced by heavier neoprene material which is oil resistant.

Collector tubes must be kept adjusted at proper distance from steel rolls; this requires about two hours out of every 24-hour period for each section of 16 frames (40 minutes per section man per shift).

The collector tubes are set ⅛ inch from the bottom (steel) roll. When laps are pulled off the steel roll, the collector tube is pushed down by the operative, which occasionally upsets tube alignment.

The tubes are supported at each end by aluminum arms of thin, flexible stock, which provide adjustment. Frame vibration is sufficient in some cases to affect alignment of the collector tubes.

The section man on each shift checks every tube for correct alignment to insure efficient operation of the system. Also important is the fact that misaligned collector tubes may actually touch the fluted rolls and be worn by frictional contact. The ⅛-inch clearance from the steel roll places the collector tubes the correct distance from the yarn being spun.

Occasional choke-ups in tubes must be cleared; this takes approximately one hour each 24-hour period for each section. Maintenance requires approximately 18 hours weekly, operating on a 144-hour week basis.

Relief from lap-ups provided by the equipment more than compensates for the amount of maintenance necessary.

In this instance the equipment will be amortized in approximately four years, on the basis of labor savings alone.

This installation was one of the first to be made by SpinSaVac, Inc., Charlotte, N. C.

How to Apply Copper 8 Quinolinolate to Yarn for Mildew Resistance

COPPER 8 quinolinolate has for some time been known to impart mildew resistance to cotton and linen materials. The method of application, however, has been generally unsatisfactory because large particles of the copper compound usually form on the yarn being treated and crocking results.

This condition is usually prevalent when applying from a water emulsion. Application from a bath of copper 8 quinolinolate in a solvent has been found to create sewing difficulties when a sewing thread has been mildew resist treated in this manner.

A method of application eliminating these difficulties and yielding resistance to rot after two weeks of soil burial has been developed by Dr. H. L. Von Goehde of Boston. The process, in use at Maplewood Yarn Mills, Fall River, Mass., depends on the preparation of the water emulsion of the copper 8 quinolinolate.

The water emulsion is applied to 16s linen (cotton counts) and 8s cotton yarn at room temperatures,

is then extracted, and finally dried at 110 F. The low temperature application prevents formation of the large particles which heretofore caused crocking.

Yarn so treated at Maplewood (200,000 pounds in 1955) is plied for use as sewing thread for combat boots and civilian work shoes. Use of copper 8 quinolinolate for treating yarns intended for awnings is being investigated.

How to Choose and Use a Lift Truck

BULK (NOT WEIGHT) is characteristic of most textile handling problems, such as finished goods, stock in process, and raw materials. An often used truck is the 2000 lb capacity.

Although the truck manufacturer should be permitted to study mill needs and make his recommendations, here are the important points for the mill man to consider.

STAFF SURVEY
EXCLUSIVE

INDUSTRIAL lift trucks serve a diversity of purposes in textile mills. They are used to service storage areas for raw materials, packaged yarns and warps, work in process such as yarn on bobbins and warps, and packaged cloth. They are also used to facilitate process-to-process flow of materials; they are used to load and unload materials onto and from carriers such as freight cars and trucks, and they are used by maintenance crews to move heavy equipment.

Why Use Lift Trucks. These uses usually have three main objectives: Job improvement, cost reduction through labor savings, and best utilization of space by stacking to convert air space into live storage areas. Because of the light but bulky nature of textile products, the third function is very important.

The selection of an industrial lift truck is a difficult one. It demands consideration of several factors: truck capacity, lift, size and weight, lifting mechanism, battery capacity if electrically driven, location of operator and truck controls, and mechanical design. Besides selecting the proper combination of these truck specifications, floor space available must be studied and materials or equipment so arranged that the trucks will do the best job.

Some mill men say that their old, multiple-story buildings with low ceilings and numerous post supports do not lend themselves to use of lift trucking. One mill manager in charge of an operation housed in such a building disclaims this thinking and suggests that any structure useful for manufacturing lends itself to lift trucking.

Truck Specifications. The design of an electric truck for the textile industry is important. Generally, a lift truck is specified in terms of the weight it will lift and the maximum length of the load, its capacity at various load centers if load is moved horizontally, the type of lifting mechanism (fork, platform, crane, or special attachments such as bale clamps), truck weight and size (the latter both extended and collapsed), and the type of power used (electric motor or gasoline engine).

Truck Capacity Load. Standard models vary from 2000 pounds to 60,000 pounds with load lengths from 40 to 72 inches.

When buying a truck it is best to specify one to meet average requirements. If 95% of loads handled weigh 4000 pounds, it is not practical to purchase a 6000 pound capacity truck for occasional loads of such weight. Instead, it is far wiser to devise another method to handle this infrequent requirement.

In most mills this is not a great problem, however, because the bulk of such commonly handled packages as cotton and wool bales, and piece goods cartons and bales rarely permit loading of more than 1500 pounds on one lifting load.

Generally, the minimum truck capacity manufactured is 2000 pounds. In one case observed, this average requirement rule was used to advantage where trucks were used mainly to unload filament yarn cases and cartons from carriers, stack them in a warehouse, and load them on carriers again as ordered. The company purchased two 2000-pound fork lift trucks for

average requirements and one 4000-pound truck for the occasional big loads.

Future Requirements. It is also wise to consider possible future changes in load sizes. If a rule of thumb may be applied against this occurrence, it is to figure the size of the loads which will be handled when the system, after modernization, operates at peak efficiency.

Final consideration in choosing truck capacity is the potential of increasing material handling volume. It is usually more economical and efficient to carry two 2000-pound loads simultaneously which requires the need of a 4700-pound truck, than to handle one 2000-pound load with a model of corresponding capacity, providing package size and stack structures can be properly accommodated.

Lift Capacity. Here again, the average requirement rule should be observed: If loads must be occasionally tiered 4-high, although the majority are tiered only 3-high, it is uneconomical to buy a truck that will lift the occasional load to the extra high level. Lift ranges are from about 50 inches to 150 inches in standard machines and can be constructed to lift as high as 20 feet.

In order to properly designate the lift specification, the mill must first determine how high it will stack. Mill practices vary. Baled cotton is stored from one tier high on end to six tiers high on the bale sides; barreled chemicals are stacked up to four high; bales of grey goods are usually stacked one or two tiers high.

Warps are stacked two or three high if staggered or much higher when mounted in racks. Considering that it is most desirable and efficient (if all space is used) to stack loads to ceiling limits, here are the factors that will influence the choice and create variable practices, depending on the particular mill situation:

1. The truck must be stable enough for extra-high stacking.

2. The floor must take the strain of the total stacked load.

3. Loads must withstand the weight of other loads on succeeding layers of the stack.

SPECIAL HANDLING JOBS can be accomplished by lift trucks when the lifting mechanism is designed for the job, such as for beam storage, as shown. The effect of layers on layers must be checked for any type of tiering. **(Inset)** Skids were selected for maneuvering supplies from warehouse to loading platform because they can also be handled by dolly in tight areas. **(Below)** Placing a roll of broadloom carpeting on a shelf is no trouble when a lift truck with special attachment like this is available.

4. The nature of the package must lend itself to stacking.

Small unstable items such as starch bags are a problem. To overcome this, mill suppliers have adopted the practice of fastening several such products to pallets or skids with metal banding as standard shipping packages.

Generally, pallets are less bulky than skids, while skids have the advantage of possible manipulation with dollys or hand trucks; both are lifted with fork lift trucks. Experimental work is being carried out with salt and starch bags fastened together with cement, eliminating the need for pallets. These packages are five, six, or eight bags high and can be handled with a platform truck.

5. Material must not be injured by stacking. Any cloth, not properly protected by its package, if subject to formation of difficult-to-remove creases, should be very carefully limited as to stack height.

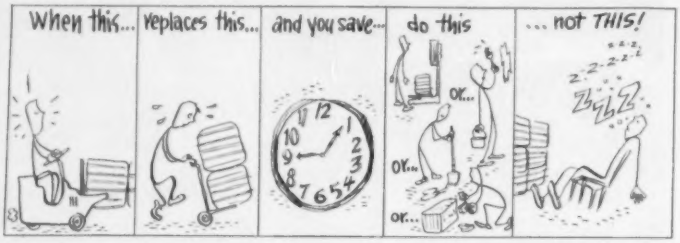
6. A high stack must also be safe. In stacking, if the wheel of a truck drops into a slight hole in the

A SLANT ON COST . . . .

When evaluating the place of lift trucking in the cost picture, most mills compare the time required to do a job by truck with whatever manual method is or was in use. This permits the mill to determine possible savings in labor costs which are usually weighed against some means for amortizing or at least recognizing the purchase cost of the machine.

An important point to check is the after effects of man-hour savings. If the job of transporting bales of raw material from storage area to opening room for instance, keeps one man with a hand truck busy for 8 hours a day, and by installing a lift truck, this job is reduced to 2½ hours a day, only half the story is at hand.

The big question is what does this man do during the 5½ hours saved by use of the truck. Unless some useful work is found for the man to fill this time saving, it is not a saving at all, and it might very well develop that the hand truck was the cheapest method.



floor, a load elevated 15 feet might move laterally as much as a foot and tip the truck over. Also, if a package falls from a load high in the air it gains enough momentum to inflict serious damage at ground level.

All of these factors have a bearing on how high material can and should be stacked; one additional device, the rack, should be described at this point because it influences this factor. Commission dyers are particularly concerned with the large quantities of grey goods that they must store until their customers are ready to issue dye orders. Such goods vary considerably in package size and type, further complicating the problem.

One commission dyer erected pipe frameworks back to back with a 6½-foot aisle space between these double rows; the racks accommodated 7000 packages. The racks were seven layers high with the top open, and layers varied from 32 to 42 inches high.

A clamp grab truck was purchased that would lift the piece goods bales, cases, cartons, or single wrapped pieces to a limit of 20 feet, and place them in the racks independently of layer on layer considerations. Insurance company requirements to keep the goods off the floor were also satisfied.

The second area of consideration in selecting a particular lift height is whether the truck can be maneuvered. With telescoping fork lift trucks, a 2-inch increase in lift generally causes a 1-inch increase in the collapsed height of the truck. If the lift is increased too much, it may not be possible for the truck to pass through doorways or under low hanging pipes or beams. If a truck is used for car or truck loading, its collapsed height should permit entry into the carrier.

Most truck manufacturers build a 68-inch high model for carrier loading. Unless the lifting device will elevate without increasing the overall height of the truck, it may not be able to tier loads inside low headroom areas.

Final lift factor to think about is cost, particularly if lift is required beyond that available in standard models. Several methods have been developed to permit high tiering without increasing the collapsed height of the truck; the principal one is the use of triple telescoping uprights. Although workable, this reduces truck capacity and is often very costly.

Size and Weight for Your Mill. As in the case of determining lift, floor load capacity is important in selecting total weight and size of lift trucks. The weight must be thought of in terms of live load rather than static; also the weight of the truck plus the heaviest load the truck will carry must be figured.

In studying a mill building, particularly a multiple floor structure, two conflicting requirements can arise: A truck must be compact enough to maneuver narrow aisles and still not so heavy as to endanger weak floors. Certain types of trucks are designed for use on weak floors, but they are either smaller or designed to distribute their weight over a greater area.

Elevator Capacity is another determining factor in specifying the total size and weight of a truck. When a truck rides the elevator with its load, the heaviest load the truck will carry must be included in the total allowable figure for the elevator.

Some mills have skirted this problem by having load and truck ride separately; others use smaller, lighter trucks to load and unload elevators or to ride with loads, leaving the heavier and faster vehicles to work only on the floors.

As noted, one mill facilitates such alternate trucking by ordering its raw material on skids to permit manipulation by both a hand truck and a power vehicle.

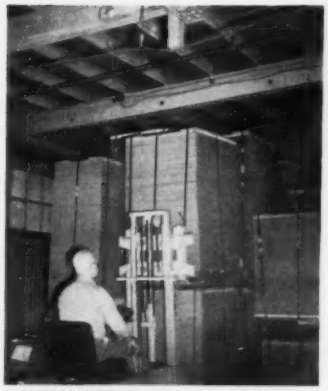
Narrow aisles and confined production or storage areas often present a mill trucking problem. In limiting truck size to conform to crowded mill conditions, capacity is also limited. In such cases, practice has taken two courses:

The first is by limiting the area of movement of the truck to the smallest possible distance in the most critical place. A woolen mill, crowded for space, decided on a 2000-pound capacity truck, 36 inches wide, to move only 100 feet in maneuvering baled and bagged

wool in a 6-foot aisle space.

The second practice involves substantially the same principle but, because of unwieldy and heavy packages, combines a conveyor to complete the servicing of production areas where use of the lift truck is not possible.

The approach to and weight limit of rail cars and other carriers must also enter into size and weight calculations. In connection with using a lift truck for such loading purposes, one mill found it convenient to construct adjustable docks or bridges to link loading area and carrier.



MAKING USE OF AIR SPACE to store supplies.

STABILITY OF PACKAGE must be considered when tiering. These toppled bales present a safety hazard.

Lifting Mechanism. Most mills use one of three types of lifting mechanisms: fork (most common), platform, or clamp. Very often special attachments are offered to fit a certain job, such as lifting warps.

Choice of the type lift depends on the nature of the package being handled. The fork is generally used where materials are received or put up on pallets or skids, e.g., textile chemicals in barrels and bags; a more recent trend is to palletize large yarn packages, such as carpet yarns.

In manipulating bales, large bags, and cases, either a clamp or platform type is used for unloading from freight cars and transporting them to storage areas. The fork attachment is used to move and stack palletized materials.

A clamp has been developed for unloading cotton bales from freight cars; it will grab bales in the upright position and turn them 90° to stack them on their sides.

It is well to remember that, because their basic design distributes the overall weight more evenly, powered platform trucks often may be used where fork trucks cannot operate. The platform truck is a favorite of mill maintenance departments because it has a large flat surface for use as a general carry-all, and for lifting heavy and bulky equipment usually mounted on skids.

Some mills place a skid over a fork lift to serve as a temporary platform; in one particular case such a set-up was used as a ladder to reach overhead storage racks for Jacquard card sets.

Many adaptations can be worked out by use of attachments such as drum grabs, side shifters, etc.

Battery Capacity. Although selection of the proper battery to use when equipping an electrically powered truck is closer to the truck manufacturer than it is to the mill man, certain requirements must be considered by the mill before purchasing the truck.

Primarily, a battery must be chosen that will allow the vehicle to perform properly throughout the working day. Accordingly, it is necessary to study the following points: length and frequency of travel, required number and height of lifts, action of an attachment, amount of jockeying the truck must do, the number of starts and stops, whether tilt is required, whether ramps are to be negotiated.

Reverting to the problem of small and compact truck requirements, some compromise must be made between size and any large

CHECK LIST FOR TRUCK SELECTION

When Specifying Truck Capacity, consider such factors as size and weight of loads most often handled, plus the possible increased load size and weight which may accompany future handling tasks. It is not economical to purchase a truck to cover occasional loads which may weigh more than the average.

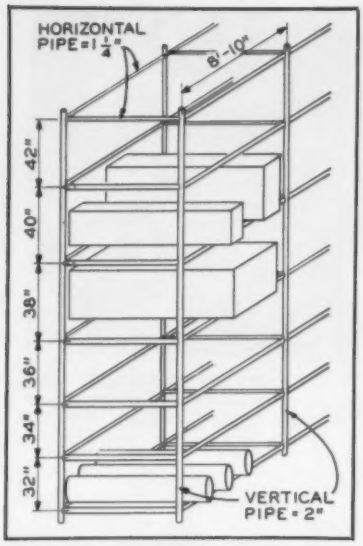
When Specifying Truck Lift, consider the greatest stacking height feasible minus the height of one complete load unit, the allowable collapsed height of the truck, the maximum weight the floor must withstand, and the stability of the truck during high stacking. It is not economical to buy an extra high stacking truck for just the occasional job.

When Specifying Total Weight and Size of a Truck, consider floor load capacities, elevator capacities and size, aisle widths, limitations of confined areas, and floor capacities of over-the-road and rail carriers.

When Specifying Lifting Mechanism, consider the type of package to be handled, and the possibility of handling more than one type of package with the same vehicle.

When Specifying Battery Capacity, if electric trucks are used, consider length and frequency of travel, lift, tilt, action of attachments, whether ramps are traveled, amount of truck jockeying, length of working day, and size of truck.

When Specifying Location of Operator Controls, consider effect on comfort and alertness of operator, the importance of position of operator with relation to location of load, and the importance of keeping the entire truck in the operator's view.



RACKS CONSERVE FLOOR SPACE. Can be built with various size compartments to store odd-shaped materials. Lift truck operator can put or take materials without disturbing those above, below, or adjacent. Racks illustrated were constructed of pipe; hold 7000 packages of piece goods.

MAINTENANCE PLATFORM is handy use for lift truck. Place skid across forks. This man is changing a light bulb.

TO LOAD CARRIERS by lift truck, specify size which will allow entry into van or freight car. Here a pallet of yarn cartons is moved into a trailer.

battery needs that are based on extensive use during the day. Generally, a large battery is not compatible with a small truck.

Control Placement. There are three selections that are possible for the truck manufacturer to place the truck operator: Center control sit-down, center control stand-up, and end control stand-up.

Often this choice is a matter of personal preference, but certain standard practices exist. Almost all standard fork trucks today are the center control sit-down type in capacities up to 10,000 pounds. This is primarily for the comfort of the operator and ease of his training from familiarity with the automobile driving position.

Some mills, on the other hand, prefer to have the operator stand either in the center or end of the truck because they feel that this keeps the man at the controls more alert. Other mill men think that this tires the operator needlessly. In any event, stand-up controls permit the operator to move off and on the truck quickly and

How to Improve Woolen Roving Uniformity

BY STEPHEN E. ZIAK

EXCLUSIVE

MANY THINGS govern the production of uniformly spun woolen yarns. Some of these originate at the card set. Although selection of stock is an important factor, of equal consequence is the mechanical attention paid to this operation. If ropings are light, heavy, or variably light and heavy from end to end or side to side, unevenness usually results in the spinning process.

Some of the checkpoints and attachments important to the prevention of these defects are discussed in this article.

Feed Box

It is advisable when locating a source of uneven roving to check first things first—in this case the feed box. The speed of the spike apron should be such that the scale pan will drop its fully weighed load just as the push board on the feed table slat apron is at the center, or slightly beyond the center of the scale pan.

When processing wet or over-emulsified blends, spike apron speeds should be lower than for a dry blend.

Wet Blends. This condition in the stock tends to cause it to clot, with "hilly" or heavy and light feeding to the feed table apron. This defect is not improved by the action of the dabber or the push board.

Hilly feeding can be minimized by installation of a splash pan. Constructed of tin, it extends the width of the feed slat apron and is attached under the scale pan to the feed box. The stock thus falls from the scale pan onto this chute and opens up while it is sliding onto the feed slat apron, allowing the push board to butt each scale pan

SOME SAFETY RULES FOR OPERATION OF LIFT TRUCKS

1. Avoid making quick starts, jerky stops, or quick turns, particularly when stacking.

2. Move only loads which are securely and safely loaded.

3. Do not run vehicles onto any elevator unless specifically authorized to do so. Before entering any elevator, make sure the capacity of the elevator is not exceeded. Approach elevator slowly, stop at a safe distance from the elevator gate, and then enter squarely. Once on elevator, neutralize controls, shut off power, and set brakes.

4. Neutralize controls when leaving a truck unattended. Also shut off power, set brakes, remove key or pull connector plug, and leave forks in down position.

5. Avoid accumulation of fumes and gases caused by long periods of idling of gasoline engines in enclosed or semi-enclosed areas.

6. Provide suitable platform securely fastened to forks when fork truck is used to elevate people.

7. Allow no one to walk or stand under elevated forks.

8. Report to designated authority instances when industrial trucks are out of repair, defective, or in any way unsafe; do not operate the truck until it has been made safe again. Give special consideration to the proper functioning of tires, horn, lights, battery, controller, lift system, brakes, and steering mechanism.

9. Observe designated load capacities of truck. Do not counterweight to increase lifting capacity. Use extreme care when tilting load forward or backward, particularly when high tiering.

10. Cross railroad tracks diagonally wherever possible. Do not park closer than 8 feet from railroad tracks. When being operated on elevated dock or platform above track level, do not use truck to tow or push freight cars.

11. Never put arms or legs between uprights of the mast or outside the running lines of the truck.

12. Drive all kinds of trucks downgrade with the load last, and upgrade with the load first. On descending grades, keep truck under control so that it can be brought to an emergency stop in the clear space in front of the truck. On all grades, tilt mast back and raise forks as far as necessary to clear the road surface.

13. Place forks under load, as far as possible, and tilt mast backward to cradle a load.

14. Carry the load as low as possible, consistent with safe operation. When a fork truck is empty, travel with the forks as low as possible while conforming to local conditions.

15. Set the brakes or block truck wheels to hold them securely in place when loading or unloading highway trucks, trailers, or railroad cars.

These rules were abstracted from "Safety Code for Industrial Power Trucks" ASA B56.1-1955 published by American Society of Mechanical Engineers, 29 West 39th St., N. Y. 18. The code is designed to serve as guide for state, municipal, and other governmental authorities in formulation of safety rules and regulations. It is also intended for voluntary use by concerns manufacturing or utilizing industrial power truck equipment. The code covers machine design, maintenance, and operation. The above is from Section VIII, which deals with safety rules for operators only.

easily.

When stand-up controls are selected, end controls are used where it is important for the operator to see the entire truck in front of him, center controls are used when it is important to place the operator closer to his load.

The editors acknowledge with thanks the help of the many mills which participated in this survey and permitted photographs to be made of their operations; acknowledgment is also made to Elwell-Parker Electric Company, which advised on some of the basic points to be studied.

feed to an even sheet.

Intermediate Feed Table

The Web. A loose or tight web on the intermediate feed table will cause light and heavy ends. It is important to have the web no wider than the feed rolls. The sliver guide on each side of this feed table should be set to guide the flow of stock into the feed rolls about ½ inch on each side of the web. A tight web results in fine side ends at the roving wind-up; a loose one will cause folds and eventually heavy roving.

It is said that the flat-type intermediate feed can be responsible for heavy center and light side ends. A variable speed compensator has been marketed which speeds up the carriage in the center of the feed table so that the web is distributed more evenly [see "Tape-to-Tape Uniformity for Wool Roving with the Bigelow-Sanford Card Compensator," TEXTILE INDUSTRIES for December, 1952, pp. 106-108].

Lapping The Web. The thickness of the laps on the intermediate feed table is a key point in producing even roving. Controlling this is the speed of the feed table apron and the speed of the carriage which laps the web. If too thick, the lap doublings will choke intermediate feed rolls, and if too thin they will zig-zag on the table.

The best guide at this point calls for doubling as many laps as possible without choking the feed rolls of the intermediate card.

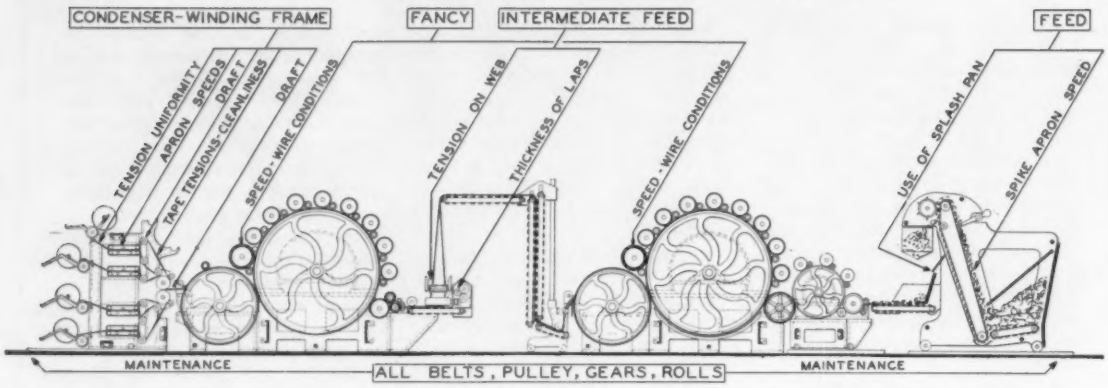
Fancies

Even when card clothing is in good condition as regards sharpness, settings, and proper selection of wire, it is common to encounter a side-to-center variation in weight of roving of as much as 30 grains for 50 yard reelings. A common offender in this connection is the fancy.

Speed. Excessive fancy speeds will throw stock towards the center of the cylinders to create this type of variation. This so-called "barrel effect" usually stops when the fancy is lagged or the pulley size increased.

Fancy speeds must be sufficient to prevent loading of cylinders,

CHECK THESE POINTS TO IMPROVE EVENNESS OF WOOL ROVING



which in turn creates light ends.

Fancy Wire. On certain runs, a slack pitch fancy of about 65 degrees is helpful in preventing unevenness; this however will depend largely on the staple length of the stock and the size of fancy wire used.

When stripping fancies, care should be taken to avoid bent teeth. This condition will cause stock to lap on the fancy and create light roving. To prevent this, fancies should be hung on their shafts and not allowed to touch anything during stripping.

Fancies should also be kept free of grease to prevent rolling of stock on the doffer. This condition eventually reaches the cylinder by the throw of the fancy.

Two attachments might well be used on the fancy to minimize some of these conditions. One, cardboard or masonite circular discs tacked to the ends of the fancy on both the intermediate and finisher cylinder, extending about 1½ inches over the fancy wire, will prevent the stock from flying out of the card at the edges. This prevents light side ends.

The other is a fancy clearer roll used to keep the fancy clean at all times. The tooth direction of this roll opposes that of the cylinder; it is driven by the stripper belt. This prevents lapping and subsequent light roving.

Tape Condenser

Drafts. The draft on the web from finisher doffer to the dividing rolls is a check point: Slack drafts will cause the web to fold and cause heavy ends; tight drafting will cause light ends.

Another draft to watch is that between tapes and rub aprons. Slubs in roving will result from loose drafts, and thin places from tight drafts.

To further insure evenness, apron speeds should be synchronized. The second set of aprons on double rub condensers should be run slightly faster than the first set for proper drafting between aprons. Again, tight drafts between aprons will cause broken ends and thin places while loose drafts will tend to fold or "polliwog" the roving.

Tapes. Tapes should be of equal tension and uniform width. When splicing in or lacing repair tapes, tension is important. A tight tape will take more stock than will a loose one and create a light and heavy end condition.

A good way to insure uniform tape tension is through use of an endless tape. This type has an idler pulley above the top tension tape roll, the latter being used for take-up purposes. Some types of endless tapes carry tension through weights attached to an idler pulley hanging on one end of the condenser. This system tends to create more tension on tapes nearest to the weight, however, and the former method is recommended.

Tapes and aprons should be kept clean. Gummy tapes and aprons will cause thin places in the roving produced.

Winding Frame. Tension on roving between rub aprons and winding frame should be the same for all banks to prevent interspool weight variations. This winding tension is usually adjusted to suit a particular blend of stock being run.

Belts, Pulleys, Gears, and Rolls

Speed variations caused by failure of power transmission devices will cause a corresponding variation in evenness of roving produced on a card set.

To prevent this, maintenance should be directed to several areas: belts should be checked periodically for maintenance of proper traction, pulleys checked for slippage with application of lags where required, and gears examined to make sure there is no binding from waste caught between teeth. Roller and other type chains should be oiled frequently with a light penetrating oil and all waste cleaned off with a stiff brush to allow smoother operation with a minimum of binding.

Rolls should be checked for balance and trueness when the card is down for grinding. An unbalanced roll can and will create unevenness by taking off more stock on the high spots than it will on the low.

Checking the Roving

Before doffing full roving spools, it is advisable to stop, remove one spool, and take a weight reading

for each end of roving on the spool. The fifty yard reelings should be taken from the spool starting each reeling at the same place on the spool. Another good check is to make weighings of the reelings thus taken in groups of three, four, five, and six ends, also in half-side groups, and finally reelings from the full spool.

Records should be kept of all reelings including their respective positions on the roving spool. This helps to pinpoint uneven reelings in relation to their position on the card so that trouble points can be more easily located.

Quality Control in the Cloth Room

BY WILLIAM SPROULE
Werner Textile Consultants

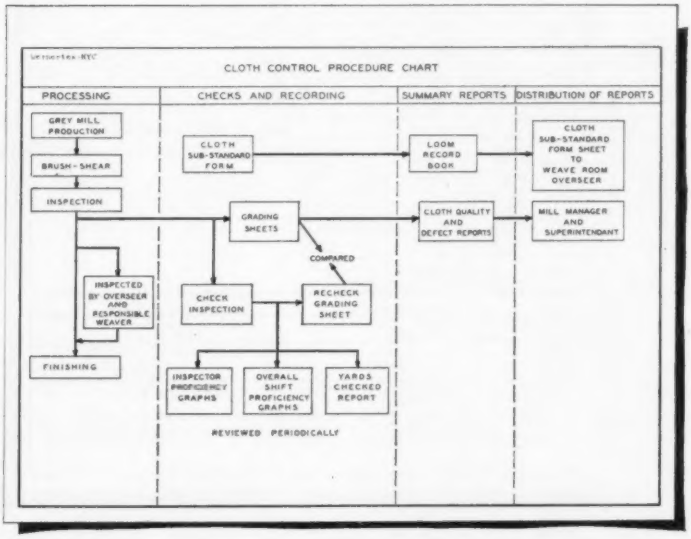
EXCLUSIVE

CLOTH QUALITY is of the utmost importance to weaving mills, because in the final analysis the customer determines the success or failure of a mill. Present market conditions, keener competition, and more alert customers make cloth quality control a "must."

A practical cloth quality control program provides:

1. Rigid control, yet is flexible enough to respond to market fluctuations.
2. Uniform grading.
3. Means for tracing defects back through the manufacturing processes.
4. A quality index which the merchandising department can pass on to the trade. Such an index can also be used for comparative purposes between lines within a mill, or between mills in a company.
5. A report to management.
6. A carefully laid out cloth quality control program, closely followed, will improve quality through reduced seconds, cut-outs, and allowances; speed the reporting of specific styles producing an excessive amount of sub-standard cloth; pinpoint the looms which are weaving cloth with an excessive number of defects; and reduce labor costs because of fewer defects and generally smoother flow of production.

Substantial savings can be made when increased emphasis is placed on cloth quality control. For example, at one mill producing 20 million yards annually, seconds were reduced from 7 per cent to 5 per cent. With a price differential of 5 cents per yard between first quality and second quality, this mill effected an annual saving of $20,000.



To set up a cloth quality control program, the following steps are necessary:

1. Select the most suitable grading system.
2. Establish cloth grading instructions.
3. Draw up a cloth grading sheet.
4. Set up a check inspection system.
5. Start a loom record book.
6. Draw up a cloth defect report form.
7. Draw up a cloth quality report form.

Selecting the Grading System. Among the factors to be considered in arriving at a suitable grading system are:

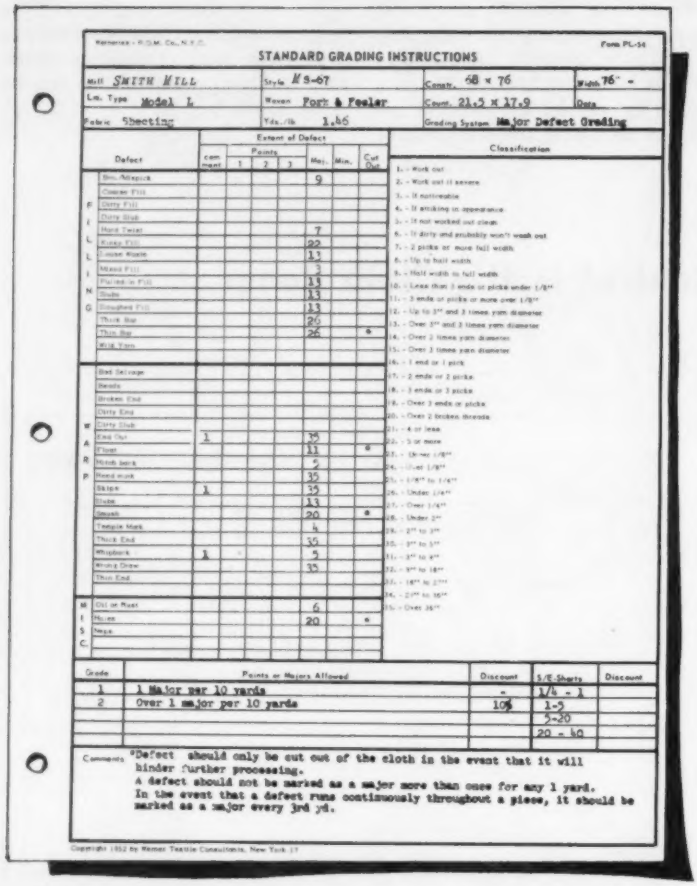
1. Raw material.
2. Manufacturing costs.
3. Style volume.
4. Type of finish.
5. Market competition.
6. Margin of profit.
7. End use.

There are numerous grading systems, with each suitable for certain lines. A few of the systems in current use are Four Point Grading, Major and Minor Grading, Major Defect Grading, and combination Major Minor-Total Majors and Dirt. Substantially the same goal is reached through each of the systems; it is only the degree of grading fineness that differs.

For ease of explanation, the Major Minor-Total Points system is used here. This method is basically derived from the Four Point Grading system.

Since no all-inclusive definition can be given of a major or minor defect, the rule frequently followed is this: If the defect requires removal by the cutter or involves throw-out in the end use, it is a major; otherwise, it is a minor.

For ready comparison among the



STANDARD GRADING INSTRUCTIONS

Form PL-54

Mill: SMITH MILL | Style: MS-67 | Constr.: 68 × 76 | Width: 76" –
Lo. Type: Model L | Weave: Fork & Feeler | Count: 21.5 × 17.9 | Date:
Fabric: Sheeting | Yds./lb.: 1.46 | Grading System: Major Defect Grading

Defect	Extent of Defect: Comment	Points: 1	2	3	Maj.	Min.	Cut Out
Fillings: Bad Selvage					9		
Coarse Fill							
Dirty Fill							
Dirty Stock							
Hard Twist					7		
Kinky Fill					22		
Loose Waste					13		
Mixed Fill					3		
Pieced-in Fill					13		
Shute					13		
Slaughed Fill					13		
Thick Bar					26		
Thin Bar					26		*
Wild Yarn							
Warp: Bad Selvage							
Bends							
Broken End							
Dirty End							
Dirty Stock							
End Out	1				35		
Float					11		*
Mesh Mark					9		
Reed mark					35		
Skips	1				35		
Slubs					13		
Smash					20		*
Temple Mark					4		
Thick End					35		
Whipback	1				9		
Wrong Draw					35		
Thin End							
Misc.: Oil or Rust					6		
Holes					20		*
Neps							

Classification

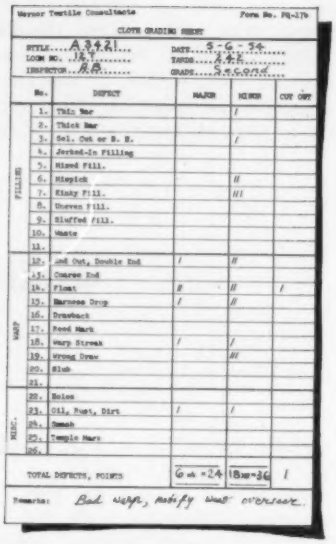
1. – Work out
2. – Work out if severe
3. – If noticeable
4. – If striking in appearance
5. – If not worked out clean
6. – If dirty and probably won't wash out
7. – 2 picks or more full width
8. – Up to half width
9. – Half width to full width
10. – Less than 3 ends or picks under 1/8"
11. – 3 ends or picks or more over 1/8"
12. – Up to 3" and 3 times yarn diameter
13. – Over 3" and 3 times yarn diameter
14. – Over 3 times yarn diameter
15. – Over 3 times yarn diameter
16. – 1 end or 1 pick
17. – 2 ends or 2 picks
18. – 3 ends or 3 picks
19. – Over 3 ends or picks
20. – Over 2 broken threads
21. – 4 or less
22. – 5 or more
23. – (Blank) 1/8" to 1/4"
24. – Over 1/8"
25. – 1/8" to 1/4"
26. – Under 1/4"
27. – Over 1/4"
28. – Under 2"
29. – 2" to 3"
30. – 3" to 5"
31. – 3" to 8"
32. – 8" to 18"
33. – 18" to 2"
34. – 2" to 36"
35. – Over 36"

Grade	Points or Majors Allowed	Discount	1/E Shorts	Discount
1	1 Major per 10 yards	–	1/4 – 1	
2	Over 1 major per 10 yards	10%	1-5	
			5-20	
			20 – 40	

Comments: *Defect should only be cut out of the cloth in the event that it will hinder further processing.
A defect should not be marked as a major more than once for any 1 yard.
In the event that a defect runs continuously throughout a piece, it should be marked as a major every 3rd yd.

Copyright 1952 by Werner Textile Consultants, New York 17

FIG. 1. Cloth grading instructions should be clearly set out on form so that defects will be uniformly graded by all inspectors.



Werner Textile Consultants — Form No. PG-17b

CLOTH GRADING SHEET

STYLE: A 3421 | DATE: 5-6-56
LOOM NO.: 187 | TAGS: AA
INSPECTOR: AA | GRADE: Second

No.	DEFECT	MAJOR	MINOR	CUT OFF
Fillings 1.	Thin Bar		/	
2.	Thick Bar			
3.	Sel. Out or B. E.		/	
4.	Jerked-In Filling			
5.	Mixed Fill.			
6.	Misspick		//	
7.	Kinky Fill.		///	
8.	Uneven Fill.			
9.	Stuffed fill.			
10.	Waste			
11.				
Warp 12.	End Out, Double End	/	//	
13.	Coarse End			
14.	Float	//	//	/
15.	Harness Drop	/	//	
16.	Drawback			
17.	Reed Mark			
18.	Warp Streak	/	/	
19.	Wrong Draw		///	
20.	Slub			
21.				
Misc. 22.	Holes			
23.	Oil, Rust, Dirt	/	/	
24.	Smash			
25.	Temple Mark			
26.				
TOTAL DEFECTS, POINTS		6 ea = 24	18 ea = 36	1

Remarks: Bad warp, satisfy what overcast

FIG. 2. Cloth grading sheet provides a means for tracing defects to their source.

different grading systems, major and minor designations are 4 and 2 points, respectively. All four-point designations are from 4 to 1, inclusive, according to severity of defect.

Cloth Grading Instructions. Instructions for grading cloth should be standardized and set down in writing, so that defects will be uniformly graded by all inspectors. The standard grading instructions should include a criterion for determining the degree of each defect, numerical value for extent of defect, total numerical value permissible for first quality cloth, and discounts for substandard cloth. A sample form is shown in **Fig. 1.**

A "defect book" should accompany the standard grading instructions. It should contain samples of the various defects likely to be met, with a sample of a major and a minor for each defect.

Regulation of the degree of quality to meet market fluctuations should start with the sales department, which is in constant touch with the trade. For example, suppose that the denim market is demanding better quality. The sales department will establish a new set of standards for grading denim, recognizing this demand. The method of grading will not be changed, but the numerical value allowed for a first quality cut of cloth will be reduced.

Cloth Grading Sheet. The cloth grading sheet is filled in by the inspector according to the standard grading instructions. All defects are marked either as a major or as a minor; only one major defect and two minor defects can be marked against any one yard of cloth. A major defect thus counts twice as much as a minor defect.

At the top of the form, **Fig. 2,** space is provided for recording the data pertinent to the cut being inspected, i.e., style, loom number, grade, yards, and inspector. The grading sheet furnishes a means for tracing defects to their source.

The inspector marks a "1" within either the major or minor column opposite the respective defect each time it occurs. After the roll is inspected, the total major defects are multiplied by 4 and the minor defects by 2. The total points, major and minor, are added together and shown as a total.

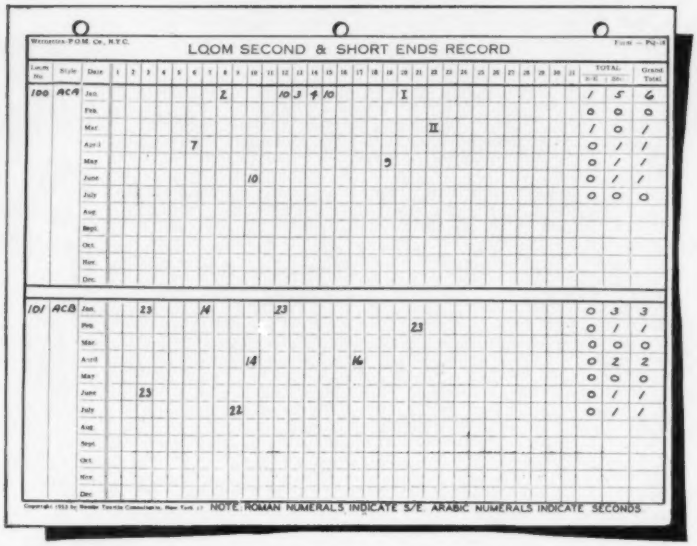
The cut is then classified according to the total number of defect points. If 40 points per 100 yards is the standard allowance for first quality, any cut exceeding this number is classified as a second.

In actual practice a cut of cloth will seldom be exactly 100 yards. The defect-point score is converted to a 100-yard basis by a chart such as shown in Table I.

First quality or Grade 1 is cloth in which the number and extent of defects are such as to make the finished cloth acceptable to the trade, no matter what finish is used.

Restricted first quality or Grade 1A is cloth which will be restricted to certain customers, because of streaks, etc.

Seconds or Grade 2 may be de-


LOOM SECOND & SHORT ENDS RECORD

NOTE: ROMAN NUMERALS INDICATE S/E. ARABIC NUMERALS INDICATE SECONDS.

FIG. 3. Loom record is kept in a loose leaf binder. Seconds and short ends are posted according to major cause.

TABLE I. Conversion of Defect Points to 100-Yard Basis

Yards/Cut	Points Allowed
40	16
45	18
50	20
55	22
60	24
65	26
70	28
75	30
80	32
85	34
90	36
95	38
100	40
105	42
110	44
115	46
120	48
125	50

EXAMPLE: A cut 115 yards containing 42 points would be classified by locating the length 115 yards in the yards/cut column and opposite this is the figure 46 in the points allowed column. Since the total points/cut, 42, is less than the allowable 46 points, the cut of cloth would be classified as First Quality.

fined as cloth in which the number of defects exceeds accepted merchandising tolerances.

Check Inspection. Check inspection is essential in order to maintain uniform grading from inspector to inspector, from week to week, and to maintain control over the quality of inspecting and burling. The latter implies that defects have been recognized, recorded, and repaired in accordance with standard procedure.

A few basic rules must be established:

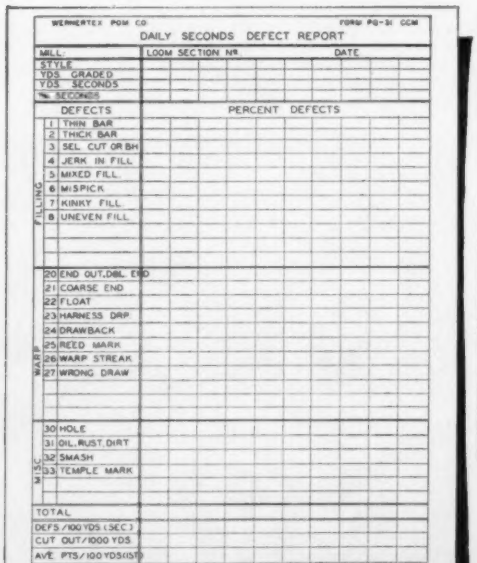
1. Cuts of cloth are selected at random from goods that have already passed through the inspection table.

2. About 5 to 10 per cent of the total yardage passing through the inspection tables should be rechecked.

3. Each inspector should be checked at least once a week.

4. All cuts are selected at random to eliminate the possibility of an inspector being able to anticipate the particular work to be checked.

Loom Record Book. This book is composed of the forms shown in **Fig. 3**, and is maintained in a loose leaf binder. The following advan-


DAILY SECONDS DEFECT REPORT

	1	THIN BAR
	2	THICK BAR
	3	SEL. CUT OR BH
	4	JERK IN FILL
	5	MIXED FILL
FILLING	6	MISPICK
	7	KINKY FILL
	8	UNEVEN FILL
	20	END OUT, DBL. END
	21	COARSE END
	22	FLOAT
	23	HARNESS DRP.
	24	DRAWBACK
	25	REED MARK
WARP	26	WARP STREAK
	27	WRONG DRAW
	30	HOLE
	31	OIL, RUST, DIRT
	32	SMASH
MISC.	33	TEMPLE MARK
		TOTAL
		DEFS./100 YDS. (SEC.)
		CUT OUT/1000 YDS.
		AVE. PTS./100 YDS (1ST)

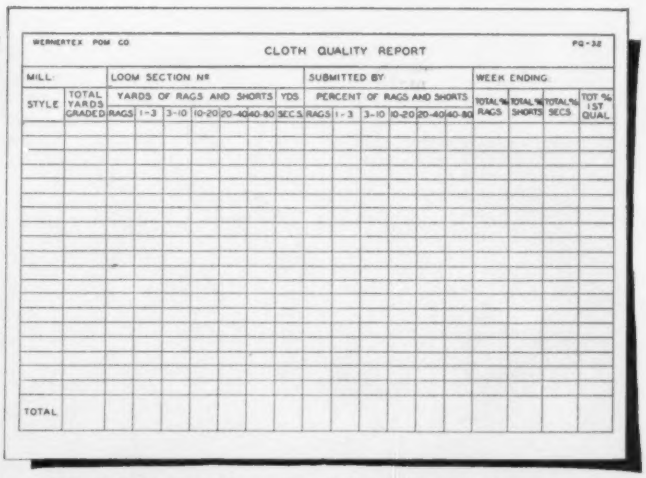

CLOTH QUALITY REPORT

FIG. 4 (left). Data from the cloth grading sheets are summarized periodically on a defect report for the information of management.

FIG. 5 (above). Cloth quality report is drawn up from the defect reports.

tages are derived from such a book:

1. Looms producing substandard cloth are immediately brought to the attention of the overseer.

2. A record is maintained by loom, and shows the reason for each cut of substandard cloth, enabling supervisors to review the past performance of a loom, or of a weaver's section of looms.

3. Attention is directed to those looms which are repeatedly producing substandard cloth. This is important, because it has been found that the majority of seconds come from a small percentage of the looms.

The seconds and short ends are posted in the loom record book according to the major cause of the second or short end. This is then checked against previous posting to determine whether the cut is:

1. A repeat for the same defect; or

2. A repeat, but not for the same defect; or

3. Not a repeat.

Periodically, the looms producing substandard cloth are investigated.

Cloth Defect and Cloth Quality Reports. Data from the cloth grading sheets are summarized periodically for the information of management. The cloth defect report (**Fig. 4**) shows, for each style, the percentage of each defect, average points per standard yards for first and second quality cloth, and the cut-outs per thousand yards.

A cloth quality report (**Fig. 5**) is drawn up from the defect reports, to show, by style, the yards and percentage of first quality, second quality, and short ends.

Training Inspectors. We have found all too frequently that inspectors are placed in the cloth room because they are not desirable in other departments. They are often placed with one of the other inspectors to pick up what they can about cloth grading, instead of being properly trained.

For the cloth room quality control program to be successful, the inspectors must be thoroughly trained in all phases of their work, through an adequate program.

The Batik Process Adapted to Production

Indonesians have been applying complex "print" patterns to cloth by hand for many years: here's how the same result is achieved in a Brooklyn screen printing plant.

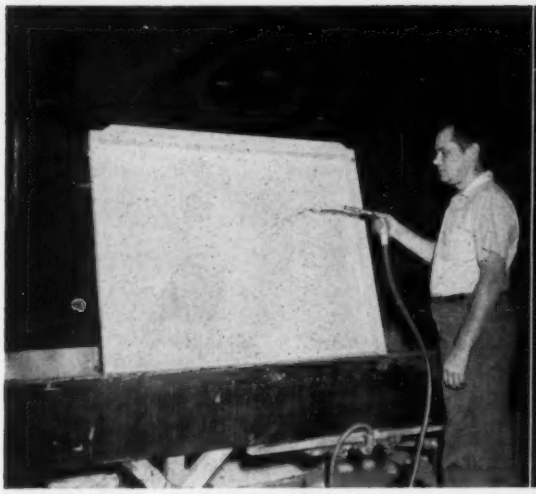
STAFF PREPARED
EXCLUSIVE

A COMMON AVENUE OF establishing success in fabric design is first to obtain, and possibly sell, small quantities of an original imported, often very involved, woven or printed pattern, and then to follow it up with a domestic version. Such adaptations are usually designed to conform to this country's standards of high production at a popular price where the imported original is very often involved and expensive.

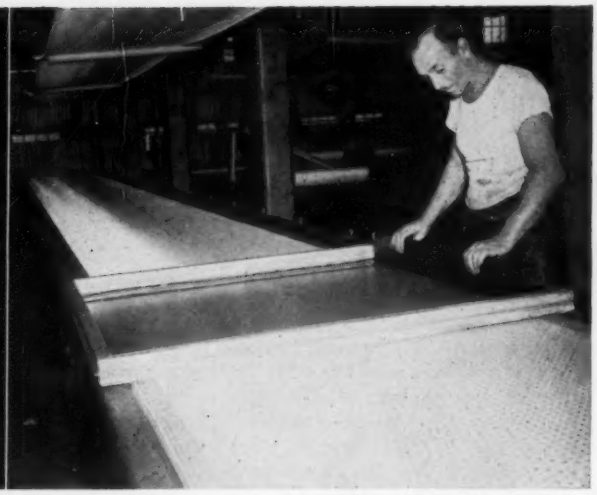
Joseph Schnall, textile screen engraver of Brooklyn, N. Y., has developed one such adaptation from the batik process, a handicraft of Surakarta, Indonesia. The domestic screen maker has consolidated what would normally be 12 to 20 screen jobs into five, discovered a way to achieve a characteristic "hand cracked" appearance, and built a repeat on a screen by photoengraving on its own step-and-re-

ORIGINAL BATIK PATTERN is consolidated so that only about five colors are used and a practical repeat is isolated. Each color of the pattern is traced on a vinylite sheet with molten black wax. The wax will eventually give the screen work a "hand-cracked" look.

THE VINYLITE SHEET is used as a negative to contact "engrave" the screen by the step-and-repeat method. The sheet (not shown) is placed between the overhead weight and the screen. Light is fired at all parts of the screen in the red-lighted room to expose light-sensitive coating.



PATTERN IS DEVELOPED, after complete exposure of the screen, in repeated individual exposures to the vinylite sheet. The pattern now occupies 36 x 40 inches on the Dacron screen.



BATIK EFFECT is obtained in screen printing by standard methods, once the five-screen set is made. Photo shows one of the 60-yard tables at Como Art Process Corp., Brooklyn Dacron and acetate printer.

peat machine.

Batik Work. Repeats of patterns applied in the batik process are usually small and are on irregularly shaped lengths of cloth, such as a 15 x 42 inch sari.

All batik work starts with immersion of the goods in molten wax, resulting in a film of wax on both sides of the cloth. Impressions are then made in the wax by hand in one of several ways: the wax is cracked or chipped according to some indefinite type of pattern; a knot is tied in the cloth in some regular order so as to produce irregular, fine cracks; or a fine line figure is traced on the wax with a stylus.

The cloth so treated is then dipped in a dye bath and color hits the cloth only where the wax is pierced. The wax is removed, the cloth is dried, and then the whole cycle is repeated to "print" the next part (color) of the pattern.

This is done from 12 to 20 times, resulting in an involved multicolored, figured and fine line pattern with a characteristic appearance.

Adapting to Screen Printing. The first step in the Schnall method involves studying a batik pattern so that the multiple color applications are reduced to about five. This is done by combining two or three gradations of the same color into what will eventually be a Dacron screen. The indefinite portions of the pattern are so combined that they will occupy about three screens (three colors). The ground color of the pattern is accomplished through a "blotch" screen, and fine line overprint by a fifth screen.

With this decided, one sheet of vinylite film is traced from the original for each of the five components, by color. The sheets are traced so that a repeat of pattern is established from the transfer.

The tracing medium is the key to reproducing the batik effect. Black wax in the molten state is used. The exact formulation of the wax was developed by company head Joseph Schnall.

As the wax, being used to trace a component from the original, cools, it rolls and duplicates the antique texture found in the batik. At the end of these transfers, there is one vinylite sheet for each of the colors to be used in printing, representing one repeat or a part of one repeat of a continuous pattern.

Screen Making. The vinyl sheet, decorated with black wax, is then handled as is an acetate negative of one repeat that is built up photographically from a sketch. That is, it is used as a negative to contact-engrave a Dacron screen.

This is done in a step-and-repeat machine that was built to Schnall's specifications. It consists of rail set true to 0.001 inch on which stops are placed. The stops guide the exact placement of the negative in repeated exposures to the screen, to make up an area 36 x 40 or 45 inches.

Contact between the negative holder and screen is assured by pressure of an overhead weight, and engraving is actually accomplished through coating the screen with a polyvinyl emulsion which is light sensitive.

The work is performed in a red lighted room; and a bright white light, the only thing to which the emulsion is sensitive, is passed up through the screen and negative only at the point of contact of screen and negative. When completed, the screen has been exposed to the negative all over, and the result is perfect joinings of all the individual repeats.

Washing completes the job; wherever light was allowed to pass through the screen, its coating is broken down and removed.

Printing. Actual continuous repeat-on-repeat screen printing which follows is no different from any other: goods are laid down on a wax table or pinned down in lengths of about 60 yards. The screens, guided by a stop rail, are moved down the length of the

table one at a time. This is accompanied by placing the appropriate print paste color in the screen and spreading it across the screen with a squeegee, imprinting the cloth in stencil fashion.

The process is repeated for each of the five screens made to duplicate the batik effect.

Yardage Knockoff on Ribbon Lapper Cuts Waste

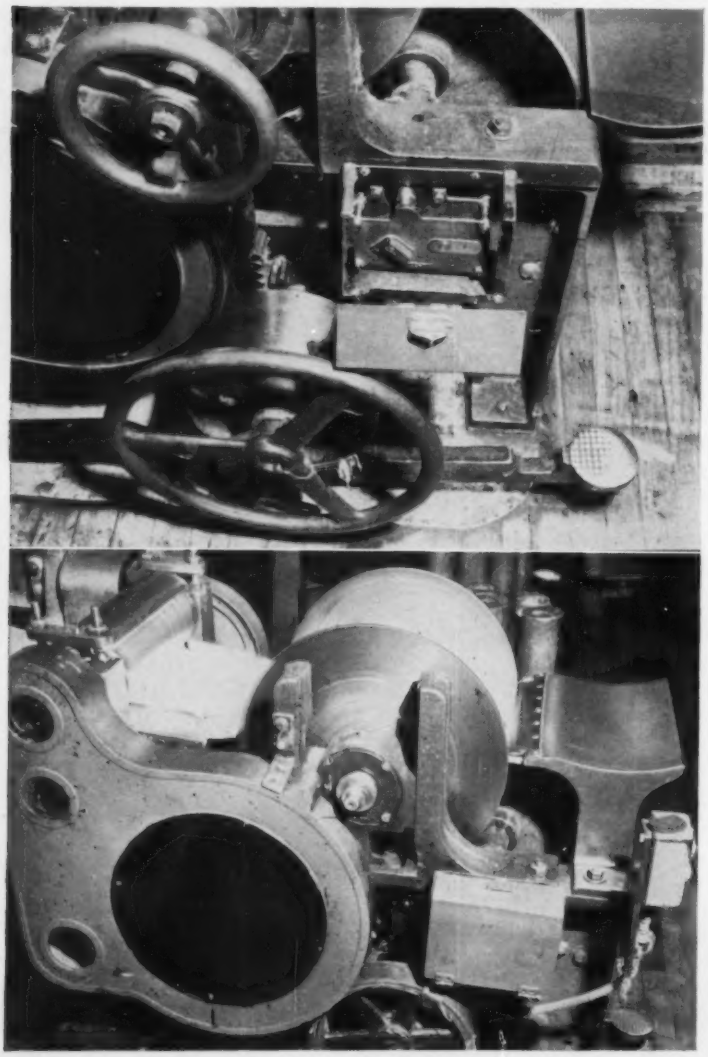
STAFF PREPARED
EXCLUSIVE

A MECHANICAL yardage knockoff device was installed on one ribbon lapper at Gastonia Combed Yarn Corp. several years ago. Results at this process were improved by the device to such an extent that management at this quality yarn mill considered a complete changeover on all machines justified.

Results in terms of waste savings alone were so gratifying that several sliver lappers were also equipped with the device. Ball bearing head blocks were also installed.

The knockoff mechanism operates on the "hunting tooth" principle employed on pickers. When the two metal surfaces come in contact, the electrical circuit is affected to actuate the stop switch. The mechanism is a mechanical device which interrupts the electrical circuit at exact, predetermined intervals, thereby assuring uniform yardage on each lap made on the ribbon lappers and sliver lappers.

MECHANICAL YARDAGE KNOCKOFF DEVICE exposed on ribbon lapper (top photo). Bottom photo: Ball bearing changeover reduced alignment problems and helped improve lap uniformity.

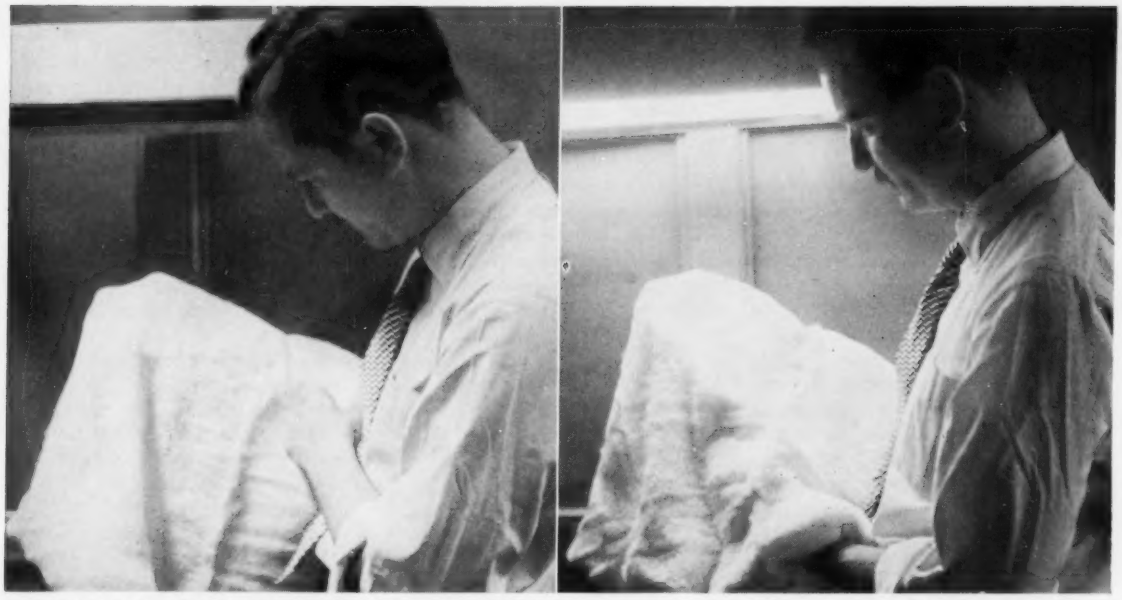


Waste Savings. The ribbon laps affect comber operation in that the comber operator puts down laps four at a time (or six at a time, depending upon the machine). If one lap is slightly short, the operator creels that one as well as the others that are not ready to creel. The operator rolls off the remainder of the laps into the waste can.

Quality Improved. The change to yardage knockoffs on ribbon and sliver lappers effected a saving of approximately 15 pounds of waste per comber operator per shift. The investment is considered well worthwhile on the basis of improved quality alone, in that there are fewer piecings in the work, and the stock formerly reprocessed was damaged in rerunning. This quality improvement is augmented by a reduction in the cost of processing the waste and handling it from opening through the ribbon lapper.

Maintenance Reduced. The change also reduces maintenance costs on combers because the half laps were occasionally damaged when a lap tail ran through. The lap tails were dense and bulky and jerked through the needles causing enough damage to require reneedling. This condition was a result of some laps being shorter than others before the knockoffs were installed.

Precision Gear and Machine Co., Charlotte, N. C., supplied the knockoffs.



DETECTION OF CONTAMINANTS is made possible through the use of long-wave ultraviolet lamp similar in operation to an ordinary fluorescent tube and fixture. The cotton lap sample at left looks OK under room light; the same sample at right being viewed under ultraviolet shows oil spots which fluoresce bright blue-white.

How to Use Ultraviolet Light in the Textile Industry

ULTRAVIOLET LIGHT is that part of the electromagnetic spectrum which has a wave length in the range from about 136 to 4000 angstrom units. This energy range is below the violet of the visible spectrum and therefore cannot be seen, but the effect of a source selected for its strong ultraviolet light emission can create unusual visual effects under two general sets of conditions:

1. When ultraviolet is absorbed by certain materials and then re-emitted at a greater wave length which falls within the visible portion of the spectrum. Such materials are said to be luminescent, fluorescent if they glow under ultraviolet, and phosphorescent if the glow is retained after the light is removed.

2. Where the light is directed at materials containing differences in color or chemical structure not visible under normal lighting; the more "pure," mono-chromatic nature of ultraviolet often will render these differences visible.

Types of Ultraviolet Light. For practical use, there are two types of ultraviolet light sources:

1. *Long Wave,* which emits at a wave length of about 3660 angstrom units. Most fluorescent substances and color differences are activated by this type of source. There are some 3000 known materials which will fluoresce under long wave ultraviolet light. Long wave light is produced by mercury vapor lamps containing argon plus some filtering system. They can be made as a bulb-type lamp for concentrated intensity to detect small amounts of fluorescence in materials, or as a tube similar to units used for lighting which include a starter and fluorescent tube. Neither the bulb nor the tube type has injurious effects.

2. *Short Wave,* which emits at a wave length of 2537 angstrom units. Short wave ultraviolet will often detect fluorescence and differences not possible under long wave ultraviolet. Most minerals fluoresce under short wave as will complex compounds such as proteins when being analyzed by the paper chromatogram method. Short wave is generally produced by a mercury vapor-argon source in a pure fused quartz tube. Common trade name for this type is "Mineralight."

Industrially, ultraviolet units are in common use in both lab and production departments to inspect for off-standard quality, to pick up

Most of us are familiar with the unusual glowing effects produced in the theater and in displays when lights are turned out and materials treated with luminous additives are subjected to ultraviolet lamps. This curiosity has been put to practical use in recent years in such fields as minerology, medicine, law enforcement, public health, the petroleum industry, plastics, and various metal trades.

Work in the textile industry with "black light" is just starting; here is a report on how it is being done and how the principle may be applied to new areas.

STAFF PREPARED
EXCLUSIVE

normally invisible identifying and coding additives, and for analytical identification. Some general examples of this follow.

Uses of Ultraviolet Light

Detection Through Fluorescence of the Material. Among the more important industrial substances which fluoresce under long wave ultraviolet are lubricating oils and greases, certain mineral oils, and molds. Oils and greases, which fluoresce brightly blue - white and/or green, are detectable in products where they represent contaminants and are a latent source of trouble. They are also detectable in machinery, and make possible the visible determination of completeness of lubrication.

Very often, molds cause decomposition and spoiling of products; ultraviolet is used to detect this in early stages of development.

One important factor in the use of long wave ultraviolet for any purpose is that the light does not penetrate and *can only be used for scanning surfaces.*

Detection Through Addition of Fluorescent Materials. Long wave-sensitive fluorescence can be induced in any material by including or marking with fluorescent additives. These additives include inks, crayons, powders, chalks, and paints. Only the inks are completely invisible to normal light; however, the others are colorless. Because these additives can be selected to fluoresce in a variety of colors, lot identification is a major use.

Another use is marking to identify a company product to detect counterfeiting, misuse, or false consumer claims (where a company did not originally make the product in dispute, although it may have made a similar one).

A processing use for additives commonly practiced is to check for completeness of coatings (such as items coated for the military to protect against fungus attack, etc.), and to determine leaks in coated units such as fuel storage tanks.

In the metal trades, a so-called fluorescent penetrant system is used. Small surface flaws such as nicks, pits, and bubbles are detected by coating the unit with a fluorescent material and allowing it to drain off; the additive will be retained in the flaws and be visible under ultraviolet.

In the cutting up trades, patterns are printed on goods using fluorescent inks and powders; garments are cut and sewed under ultraviolet light and the markings are invisible in normal light.

Detection Through Accentuating Color and Chemical Difference. Long wave ultraviolet light is used in many ways where no strong fluorescence is involved. Slight differences in color and chemical structure can be detected. Batches of coloring materials such as dyes and paints are thus checked under ultraviolet light.

Also, certain types of degradation caused by chemical reaction are visible under ultraviolet: One washing machine company uses the light to detect chlorine damage in washed clothes; damaged areas show up as grey splotches under ultraviolet.

Mill Experience — Lab. While case histories in textile mills are at this writing limited, one mill group has used portable long and short wave lamps in the lab to check for minute amounts of impurities such as fresh mildew, minerals, dyes, optical bleaches, fats, and oils. Use includes fabrics, plastics, paper and garments.

Mill Experience—Production. In the assembly plant of one New England sweater knitting mill, sweater parts are marked with fluorescent inks coded to yarn lots. At the work tables, stray sweater parts, distinguishable by their different coding under ultraviolet, are separated. This prevents instances of bad sweater dyeing in which the color throughout the sweater is uniform except perhaps, that one sleeve accepts dye a shade or two differently.

The same lamps are used to detect invisible oil stains and other contaminants.

The Units. Industrial units designed to activate uses such as are

SUGGESTED MILL USES FOR ULTRAVIOLET DETECTION

General. Because of the fluorescence of oils and greases under ultraviolet light, contamination from this source can be detected at inspection points in all operations. It can be traced to source by adding fluorescent tracer colors (colorless under normal light) to lubricants used in various departments.

Marking with coding chalks and inks can be used to identify lots of yarn and cloth in various operations.

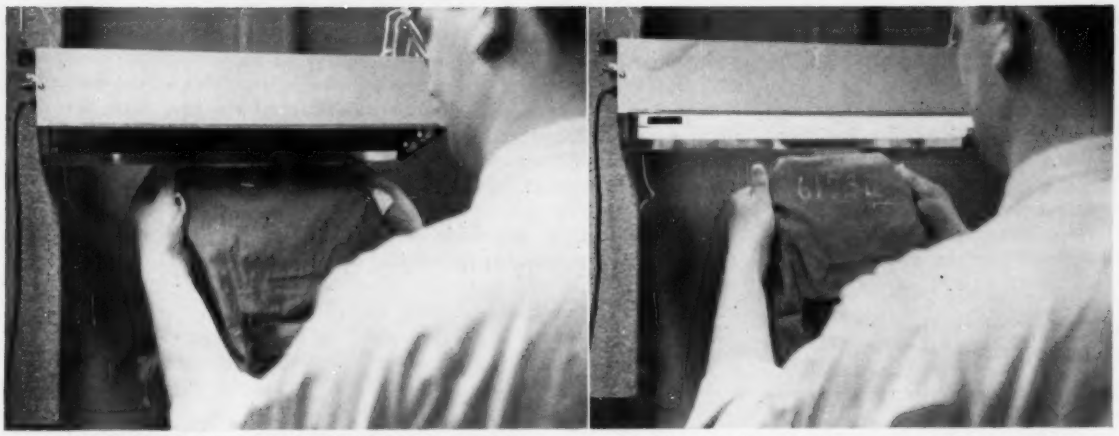
Raw Materials. Slight differences in natural fibers such as raw cotton can be detected under ultraviolet light. Detection is possible for such differences in cotton as those which are due to immaturity, region of growth, and crop.

Slashing. Pick-up of size in any slashing system can be visually checked under ultraviolet by adding a fluorescent tracer to the formula and observing its intensity at the slasher delivery. (One starch-base size formula observed fluoresced orange without additive.)

Spinning and Weaving. Foreign substances, such as fly of a different fiber, might be detectable at inspection stations by examination under ultraviolet light.

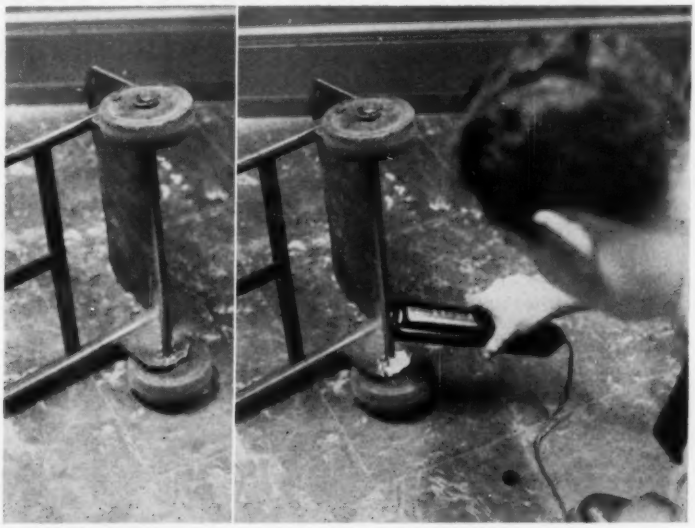
Dyeing. Detection of fiber damage due to over-processing, especially in bleaching with chlorine compounds, might be made in process and at inspection stations. Spotting contaminants and color differences in formulating both in production and lab might also be possible.

Coding Finished Cloth. To prevent false claims on the mill, cloth selvages can be imprinted with an invisible fluorescent ink. If goods are normally to be printed, an extra roller or screen can be used to imprint an invisible all-over identifying pattern and/or color mark.

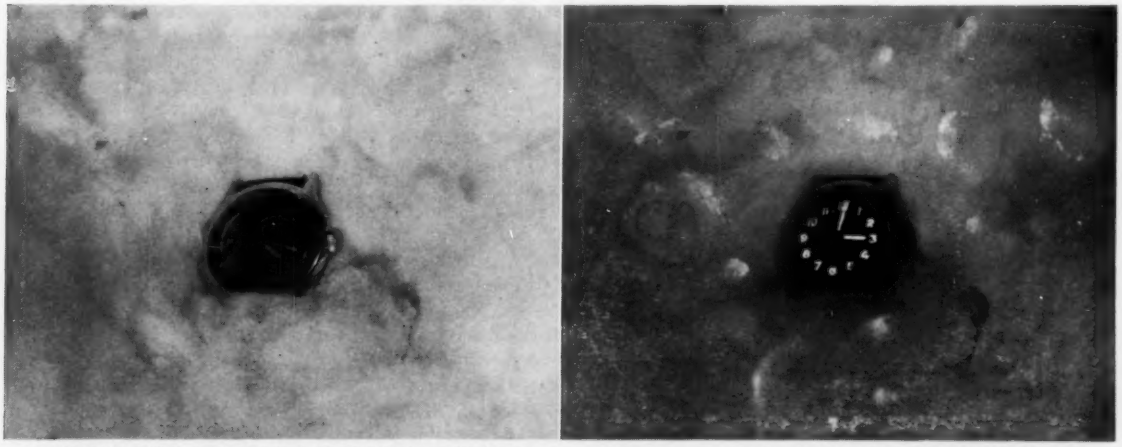


APPLICATION OF FLUORESCENT ADDITIVES permits lot identification, coding, and pattern marking visible only under ultraviolet. Yarn dyed cloth at left has been marked with an ink which does not normally show up on the "loom finished" fabric but which under ultraviolet (right) indicates the piece number.

IN THE LAB, analysis and comparisons, particularly color comparisons, are made easier by the use of long- and short-wave ultraviolet. Slight differences in color and chemical structure can be detected even where there is no strong fluorescence involved. Unit shown here is a bulb-type, long-wave portable.



COMPLETENESS OF LUBRICATION can be determined visually with ultraviolet light. Grease on wheel of hand truck fluoresces under hand unit in right photo.



COTTON CONTAMINATED WITH HONEYDEW appears normal under ordinary incandescent light (left), but fluoresces under ultraviolet light (right). Honeydew itself does not fluoresce; the source of the fluoresce is probably mold which forms on the honeydew (see TEXTILE INDUSTRIES for December, 1953, pp. 120-123).

cited herein are manufactured by the Black Light Eastern Corp., 33-00 Northern Boulevard, Long Island City 1, N. Y.

The company manufactures both long wave ("Black-Ray"), and short wave ("Mineralight") units; both are made to plug in to normal 110-volt a-c power sources, and in battery powered portables.

"Black-Ray" is a cool-burning, self-filtering unit similar in appearance and installation to normally used illuminating fluorescent tubes. The tubes are of 4-, 15-, and 40-watt capacity and are mounted either singly or doubly in specular finished Alzac aluminum reflectors; fixture lengths for the three wattages are 6½, 19, and 49 inches.

The small units are hand directed; the larger ones are installed overhead.

Setting Up. Generally, the presence of illuminating light is not a deterrent to examining materials under ultraviolet. The optimum distance of the unit from the object, the intensity of the unit, and the fluorescent intensity of the object are mathematically related, but trial and error experience usually permits fast adjustment of distance of light from object and choices of light strength.

ASME Annual Meeting

Heed these Suggestions for Preventive Maintenance Offered by Machine Builders

During the recent annual meeting of the Textile Engineering Division of the American Society of Mechanical Engineers at Lowell Technological Institute, Lowell, Mass., preventive maintenance as it specifically applies to various branches of the textile industry was studied.

Emphasis was placed on the factors to consider in setting up a schedule of preventive maintenance, rather than presentation of detailed maintenance schedules. It was pointed out that manufacturers of equipment spend considerable effort and money to make schedules available and that mills must adapt them to their own peculiar conditions so that they will be simple, systematic, and complete, based on careful analysis.

Here are extracts from three of the papers presented.

Well Supervised Program Pays-Off in Weave Room

BY FREDERICK M. FITZGERALD
Director of Research
Draper Corporation

A LOOM will operate and produce cloth of a sort, even though improperly set. Quality standards for many fabrics are flexible to the point that "What will the customer accept?" is the mill guide. Because of these facts, preventive maintenance programs are not considered worth the trouble in some mills.

A well supervised program, however, can pay off in the weave room. Once a checking or follow-up system is selected, consideration must be directed to the man in charge of the program, the tools with which he must work, and standardization of machine settings.

The Supervisor. All of the systems in the world are of no value unless properly used; the man in charge of this use is probably the key to success or failure. The man should be carefully selected, given the authority to balance his responsibility, and provided with the proper tools to do his job.

The maintenance man should be allowed to talk with representatives of suppliers and keep himself informed of new developments. Newly designed machine parts, new mechanism, and new information are being developed constantly, and this man should know about them and be allowed a recommendation in supply purchase. He should be allowed to attend meetings of textile organizations where subjects of interest and importance to his job are discussed. He should be furnished copies of trade magazines which apply to his job.

The Tools. The supervisor of and participants in a preventive maintenance program should be furnished with setting instructions as prepared by the machinery manufacturers and should be required to follow them. The system used is an important tool itself.

Hand tools should be studied to see that the best tool for the job is provided for the man or group doing the work. Tightening nuts with improper wrenches, hammers or tools not intended for the purpose, can only produce broken parts, improperly set parts, and trouble.

The maintenance crew should be provided with correct locating and timing gauges and instructed in their proper use. These need not be expensive, elaborate instruments, but rather simple metal gauges made to correct dimensions. Draper looms are built with gauges and Draper provides a motion picture and lecture service in which their use is described in detail.

Standard Settings. One of the most important points in any

maintenance program should be the establishment of standard settings of parts and mechanisms. Looms are designed and built to do a certain job and cannot be expected to produce if the setting of the parts and mechanisms is left to the judgment of individuals throughout the mill. The loom manufacturer can supply recommended settings of a general nature. These can be used as a guide to establish the exact settings that are required for any particular condition in the mill. It should be a comparatively simple matter to determine the best setting for a given condition and, once this is determined, to provide the maintenance crew and loom fixers with proper gauges and instructions to see that these settings are maintained.

The job of keeping the shuttle correctly boxed is probably the most difficult problem in any weave room and requires the major portion of the loom fixer's time. It accounts for the greatest percentage of cost of supply parts and is responsible for a large percentage of down time and inferior quality fabrics; yet too often this is left entirely to the judgement of the individual fixer.

Correct timing of pick cams, setting of pick arms, setting of lug straps, leveling of lay ends, alignment of reeds, and all the various elements that have to do with the boxing of the shuttle, can be established and should be checked at regular intervals.

Some form of stroboscope is an extremely valuable instrument for use in determining the best settings for any given condition. If these settings are regularly inspected by the maintenance crew with proper gauges, wear can be detected before it has developed to the point of causing failure, and corrections can be made where necessary. Too often, changes in settings are made which apparently correct a fault but which actually lead to further troubles in other parts of the same system.

Important Check-Points. One of the least obvious, at least to the loom fixer, and probably one of the most troublesome conditions that exist in many weave rooms, is the alignment of reeds, box plates, and lay ends, and the adjustment of harnesses and warp shed.

Lay alignment can gradually get out of condition; harnesses and warp shed can be carelessly adjusted to a point where they seriously affect shuttle flight, resulting in severe shuttle wear and improper adjustment of box conditions to keep the shuttle running at all. This can be very serious from a wear standpoint, yet not reach the point of actually stopping the loom and causing the loom fixer to work on it. Routine inspection of these conditions, under a well supervised program, can save dollars in wear of shuttles, box linings, and other parts.

Clutches and brakes gradually wear to a degree where trouble is experienced by the weaver in getting the loom started after a stop; yet, rather than call the loom fixer, the weaver will put up with it before actually putting the loom out of service. Again, routine checking by a maintenance man should uncover these conditions before they develop to the point of being really serious and costly.

An Example. I recently spent some time in the cloth room of one mill gathering data on acceptable quality. It was discouraging to see the inspectors, and there were about twelve of them, stopping the cloth on their inspection boards every foot or two or yard or two, picking out whipped-in ends of filling or brushing up a slight defect before going on with the inspection. Each time one of these girls stopped to do this work, it took a matter of half a minute, but the stops were very frequent. If these faults had not been appearing in the cloth, it was perfectly obvious that only half the number of girls would have been required for this job.

A five - minute walk down through the weave room disclosed that a large percentage of the cutters on the temples were not functioning at all. They had either dropped off on the floor or the springs were gone or they were worn to such an extent that they were not cutting. The filling thread cutters under the battery were in the same general condition. Yet management of this mill was proud of the fact that the loom fixers were handling a given number of looms. A little routine inspection on the part of a maintenance man could have corrected this trouble before it ever developed, and saved many dollars in the cloth room.

Under the system that existed in this mill, if the overseer in the cloth room felt that the girls were pulling out too many whipped-in ends, a report went back to the overseer of the weave room and the loom fixer was instructed to fix a given loom, This loom was probably fixed days after the cloth had been woven, or not at all. In the meantime, hundreds or more yards of cloth were coming off the same loom, all in the same condition.

Check These Points on Woolen Spinning Frames

BY PAUL THIBAULT
Whitin Machine Works

A WEEKLY inspection form contained the following suggestions for preventive maintenance on the Whitin Model E woolen spinning frame:

Head End Gearing Assembly. Check in and around gear bearing or bushing areas where discoloration might occur due to lack of lubrication. In checking chains for proper wear, it is not always advantageous to pins, sleeves, or bushings to have chain surfaces sealed with heavy grease, which causes light lubrication, supplied through the drip system to be thrown off the chain before penetrating.

Twister Head Bands. Check for improperly installed bands. If wrong, they will chafe against bands from the opposite side, resulting in loss of speed to twister tubes and causing excessive wear on both bands. Also, band hooks may lock and many times wear through the cylinder.

Fluted Rolls. Check for heavy

coatings of grease and lint on either side of traversing position of the drawing and delivery rolls. This condition will cause uneven yarn.

Travelers. Check for badly grooved travelers. Yarn drawn through them will often be chafed and strained.

Twister Heads. Check for worn tops and worn nippers. The former will tend to cut yarn; the latter will no longer hold yarn to impart twist and result in uneven yarn and breakage.

One Shot Oil System. Check tubing leading to bearing points for deterioration and fracture. Such damage results in reduced pressure to all feed valves installed on the machine.

Build of Bobbin. Check for improperly built bobbins.

Causes for this include: improperly adjusted variable cam, excessive builder cam speed (decreases yards per bobbin), and loose builder cam shafts (causes sloughing).

How to Get More Service from Rubber Rolls on Finishing Equipment

BY JAMES H. HUNTER
Vice-President
James Hunter Machine Co.

PROBABLY the most important point to remember in the maintenance of rubber rolls is the surface of the roll itself. Recommendations from all rubber roll suppliers and rubber manufacturers usually call for regrinding the surface at least once a year and, in many cases, oftener.

A common fault of rubber rolls after they have been in operation for a short period of time is the formation of hairline cracks along the surface. There are many reasons for such a circumstance. Among them are fatigue, rolls stored too long in an improper storage place, or too much pressure. These hairline cracks can be eliminated by regrinding in most cases. If they develop into deeper cracks, a surface grinding must be made, deep enough to eliminate the cracks, or the roll must be recovered.

If rolls are stored and not used, and are used without regrinding, an oxidation may have formed on the surface which hardens, and the roll must be reground before using.

When examining rolls, it is important to differentiate between damage to the rubber, and the formation of layers of material built up on the roll which may have precipitated out of processing formulas.

At the time of regrinding rolls, condition of bearings should be checked, and they should be replaced if there are signs of wear. After the first hour of operation of a new set of squeeze rolls, the machine should be stopped, bearing caps removed, and adapter nuts taken up.

Average operating time between regrinding of roll surfaces is about one year. Sometimes rolls should be reground sooner than the time mentioned. It is poor economy to try to run over these limits for a simple reason. Check marks will continue to work into the roll until recovering becomes necessary. Recovering costs much more than regrinding. Also, damage to goods can be disastrous. Frequently check the condition of the top roll. When the end surfaces begin to check, it's time to regrind.

Suggestions for the handling and storage of rubber covered rolls follow:

1. Store rolls in a cool, dark, and damp place. Keep away from sunlight, and do not expose to sudden or extreme changes in temperature.

2. Ideal temperature for roll storage is about 60 F.

3. Store roll in shipping case, if possible. Otherwise, first protect covering with strong wrapping paper, and then cover with old felts, burlap, or pulp laps. Protect journals against rusting.

4. Always support roll on its journals, and give a quarter turn about every two months. Do not allow the roll to rest on the rubber cover, even for short periods of time. If this is unavoidable, place plenty of old felts, burlap, or pulp laps under the roll.

5. We recommend handling rolls with a crane which has two hoists or lifts with a separate chain and sling for each journal. If your crane has only one lift, we suggest a yoke with adjustable slings at each end. This is in order to protect ends of covering from chafing or tearing. Wood blocks against the ends of the roll will also prevent the chains from injuring the ends of the cover. Another safe method is the use of a wide, strong belt as a sling. Be sure there is nothing on its surface to scratch the cover, and for safety provide padding as above mentioned.

6. If rolls are transported on small factory trucks, provide padding for protection so that rubber cover will not come in contact with wood or metal.

7. Store rolls away from traffic lanes to avoid damage by passing equipment, trucks, tools, etc. No grease or oil should come in contact with the rubber cover.

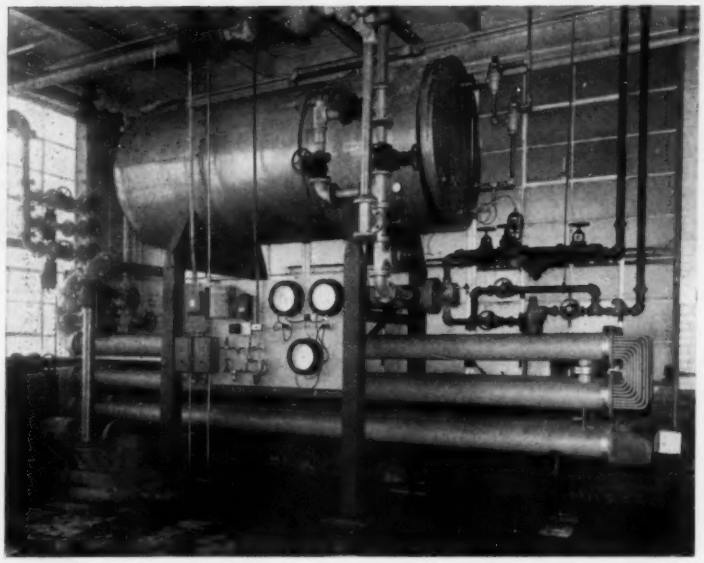
8. Do not grind the roll when removing from the machine to place in storage. It is all right to rough grind the roll at this time, but finish grind just before installation. This procedure insures a fresh surface when the roll is started up. For rolls that are to be stored for a relatively short period (not over two months), a finish grinding may be done before storage. This also applies to rolls that may be required at a moment's notice where time for even smoothing up on the grinder is not possible.

KNOW HOW TO CARE FOR STAINLESS STEEL?

Mr. Hunter's suggestions for preventive maintenance of stainless steel, which is utilized in so much of the wet processing equipment found in the mills today, will be presented in a subsequent issue. "Stainless steel either misapplied or mishandled can be one of the most expensive forms of maintenance with which any mill is forced to cope," according to Mr. Hunter.

Don't Overlook the Benefits of Heat Recovery Equipment

This article is based on factual data obtained by Ludell Mfg. Co. from textile wet processing plants that have recently installed Bready system heat recovery equipment manufactured by Ludell.



HEAT RECLAMATION and hot water heating and temperature control system recently installed at Copland Converting & Finishing Company, Burlington, N. C. It reclaims heat from waste water to within ten degrees of the waste water temperature and controls delivery of heated water to the specific temperature required for each individual or variable process operation. The entire unit is above floor.

WITH LABOR, plant equipment, and fuel costs ever on the increase, management of textile plants should look into the heat recovery possibilities in every processing operation where heat is involved, as well as any contemplated changes or expansions which would affect load and operating conditions within the plant.

What Is Heat Recovery? Heat recovery is the reclamation of by-product waste heat from polluted or solid waste effluents from industrial process operations — primarily water.

How Is It Effected? Highly efficient equipment is available today for reclaiming heat that would otherwise be wasted, thus providing substantial savings for textile and other industries.

Especially suitable for dyeing and finishing plants where there is a large amount of lint and other insulating solids in the waste water is the Bready system of heat recovery, a closed pressure type which permits automatic cleaning by backflushing. Full chemical cleaning by recirculation is also provided for, with no manual cleaning required. With this equipment, which is manufactured by Ludell Mfg. Co., constant and normalized high heat recovery and minimum maintenance are assured.

These systems are sectional, or packaged, and specifically engineered to a plant's requirements. The sectional type offers substantially greater heat recovery and expansion possibilities to take care of any increase in the plant's capacities.

For New or Existing Plants. Where originally waste heat recovery equipment was used to effect economy, it is now established that the equipment is a prime essential in new plant construction and should be given first consideration because of its effect on load requirements in regulating the size of the boiler to be procured, capacity of the hot water heating system; in fact, its effect on the entire projected plant operation.

Moreover, waste heat recovery equipment today can be engineered to correct a particular plant operation that cannot otherwise be effected. It can open the way to general over-all improvement in quality of work and even affect labor cost.

The equipment can ideally serve existing plants to relieve an overloaded boiler or eliminate the need of another boiler to increase a plant's volume.

In a plant where excessive load on existing boilers has reached a point causing difficulties to where a new boiler installation is indicated, a heat recovery system can be the real answer to less capital investment, as well as reduced fuel cost. Under such conditions, the system will relieve the overloaded boiler, provide available capacity for expanded operation, and improve the plant's over-all operations.

Here are some actual examples of benefits derived by installation of Bready system heat recovery equipment in wet processing plants:

Case of a Dyer Needing to Increase Capacity. Company "A" was in process of building a new plant, using some of the equipment from the old plant. New planning required 5,000 gph of water to be heated to 180 F. This necessitated a greater load than could be supplied by the existing boiler. The waste heat recovery system was designed to preheat 5,000 gph from a cold water average of 60 F to 120 F, when the system is supplied with 7,000 gph of waste water

AMERICAN MONORAIL LOOM CLEANER

prevents lint accumulation on looms and weave room ceilings

The first experimental loom cleaner was placed in operation by American MonoRail in 1948. A similar model was shown at the Southern Textile Exposition, Greenville, S. C., in 1949 and earlier that year was the subject of editorial mention in the textile magazines.

Since that time, much data has been gathered covering the application of loom cleaners under widely varying conditions. Not all experiments were successful. American MonoRail engineers are, therefore, fully qualified to make accurate recommendations based on actual experience.

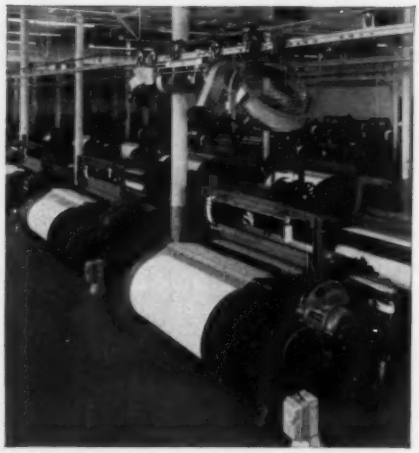
Here are a few results obtained under the conditions recorded—

Cost of cleaner installation reclaimed in 1.7 years by reduction of manual cleaning in a weave room operating at 77% humidity on synthetic yarn making fine goods.

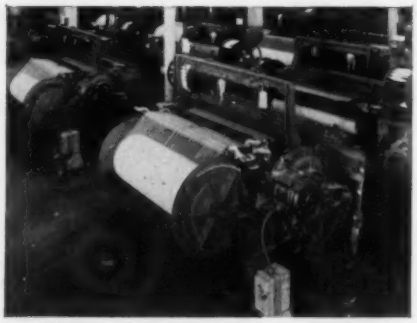
57% reduction of cleaning labor alone in weave room running over 1000 looms—90% humidity—light sizing—making gauze.

In a mill running on broadcloth, loom and ceiling cleaning over 500 looms showed an average of 1% upgrading of cloth. Cleaning labor savings pay for installation every two years.

Before you buy, make true mechanical evaluation of this equipment. Let an American MonoRail engineer offer recommendations at no obligation.



with automatic loom and ceiling cleaning 57% of manual cleaning is eliminated. Ceilings are blown-down once a month instead of every week.



without automatic cleaning lint piles up quickly. Above picture shows accumulation in 16-hour operation.

AMERICAN MONORAIL COMPANY
OVERHEAD HANDLING EQUIPMENT

13106 ATHENS AVENUE • CLEVELAND 7, OHIO

[IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.]

at 130 F.

The recovery of heat from the waste water resulted in a reduction of 75 bhp, and with steam at 43¢ per M pounds, this represented a heat recovery value equal to $9,750 per year when operating at 168 hours per week.

The problem of Company "A" was solved. The existing boiler was adequate to allow fulfillment of development plans, hot water was adequate, and fuel costs were sharply reduced.

Case of a New Carpet Finishing Plant. There was Company "B" with a new plant and desiring to take advantage of boiler capacity that could be obtained economically and perfect an open hot water cycle and keep fuel costs at a minimum.

The heat recovery system was installed in conjunction with an open recirculating hot water system. The recovery system was designed to preheat 10,000 gph from cold water temperature of 60 F (av.) to 120 F when 20,000 gph of waste water passed through at 130 F. The volume of recovered heat represented 119 bhp capacity. With the plant operating 168 hours per week and steam costing 43¢ per M pounds, there was a heat recovery value of $15,400 a year. The boiler that Company "B" purchased was adequate.

Case of an Existing Yarn Dyeing and Finishing Plant. Company "C" desired to reduce peak loads on the high capacity and efficient boiler plant, reduce the severe fuel costs, and increase hot water heating capacity.

This plant was using 30,000 gph of total water on the day shift, of which 50% was used as hot water. On the night shift, 15,000 gph of total water was used, of which 50% was hot. The recovery system was engineered on the basis of 30,000 gph total water and 15,000 gph hot water and of a capacity to preheat 15,000 gph from 60 F cold water to 125 F, a recovery of 65° when 30,000 gph passed through at 135 F. The heat recovered represented 25,220 pounds of steam per hour on the day shift and 13,250 pounds per hour on the night shift.

The value of the heat recovered with the plant operating 60 hours on the day shift and 60 hours on the night shift, with steam at 31¢ per M pounds was $7,840 plus $4,120, a total yearly heat recovery value of $11,960.

The heat recovery system accomplished the desired results for Company "C". The hot water heating equipment was doubled in heating capacity. The peak load on boilers was reduced by 20,000 pounds per hour.

How to Determine the Correct Twist for Yarn

BY JOHN DUERST
EXCLUSIVE

CORRECT YARN TWIST has always been a subject of controversial nature, and the art of choosing the proper twist is one of the most important phases of yarn manufacture.

The first twist formula was developed by Koechlin in 1828. It is the well-known "square-root-of-the-yarn-number" formula:

$$\text{Twist} = \text{Multiple} \times \sqrt{N}$$

which can also be expressed as:

$$tpi = MN^{.5}$$

where:

M = Twist Multiple
N = Yarn Number

Later, around 1900, Emil Staub found that coarser yarn numbers need relatively less twist than fine numbers. This can be accomplished by choosing a higher exponent for N. For example:

$$tpi = MN^{.5}$$

Both formulas are still in use today. European spinners prefer the higher exponent; in fact, in some cases have advocated an exponent of .75. Twists based on the higher exponents are known as "progressive twists." Both Koechlin and Staub intended the multiple to include the elements of twist hardness, staple length, and other fiber characteristics.

In 1939 the author developed a twist formula* which included the staple length and a trigonal formula

$$\sqrt{1 + 8N} - 1$$

in place of N^n.

This formula has been employed to advantage, especially when adapted to roving twists.

The empirical construction of the formula has been a challenge to the author in attempting to supplant it with a rigidly derived equation. The task has been facilitated with the help of such modern apparatus as the Micronaire and Arealometer, whose functions were not known in 1939 (at least not to the knowledge of the author).

The purpose of this article is to demonstrate a new approach to the subject by introducing a new fiber surface theory and measured fiber characteristics as components of the formula.

Practical Factors Must Be Considered. While an optimum yarn twist formula can easily be developed, it is still not possible to devise a roving formula without empirical factors as reconstructed from practical application. This is of course because rovings are never twisted as high as to break at maximum strength.

Most warp yarns are expected to break at maximum strength, but this objective be-

*"The Duerst Method of Figuring Progressive Yarn Twist," *Cotton* (now TEXTILE INDUSTRIES) for December, 1939, pp. 64-66. Related studies by Mr. Duerst which have been published in TI include "The Duerst Formula" (for calculating the tpi in roving), January 1939; "Theory of Yarn Skein Strength," November 1940; "A Study of Roving-Yarn Diameters," April 1941; "Let's Look at the Roving Bobbin (A Study of Tension and Lay Control)," July 1941; "Cotton Yarn and Thread," February 1946; "Roving Twist Graph," March 1948; "Draft Formula for Multi-Draft Fly Frame Systems," April 1950; "Predicting Cotton Yarn Strength," September 1951; and "Yarn Evenness Measurements Should Take Into Account Fiber Length and Surface Area," January 1956.

FACTS

about

NEW DEPARTURE

BALL BEARINGS

Another "NEW DEPARTURE"!
Pocket-size calculator calculated to cut costs!

Prices at your finger tips for over 100,000 different bearings! This "new departure" in the bearing industry lists basic engineering data, simplifies ball bearing selection, helps engineers figure design costs.

Instant information is available on New Departure's complete line of standard industrial bearings . . . and most important, the calculator cuts costs for buyers by spotlighting savings with low-cost, high-volume *standardized* ball bearings.

Ask your New Departure sales office about it . . . it's another New Departure "first" in ball bearings!

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONN

comes possible only if optimum twists are inserted.* The twisting action of a strand of fibers makes possible the intertwining and interlacing of the fibers in helical order. In doing this, a multitude of fiber surface frictional contact points is created, which demonstrates the fact that twisting action is primarily a function of surface frictional relationships.

Fiber surfaces in turn are determined by inherent fiber characteristics. Basically we may say that twist per inch is inversely proportional:

1. To the number of fiber layers around an imaginary center arranged in a hexagonal cross section pattern.

2. To the surface area of the fiber of mean length (L_m).

Therefore

$$t = \frac{k}{nd\pi L_m} \qquad (1)$$

where

t = twist per inch
k = constant
n = number of fiber layers
d = fiber diameter (round)

The mean fiber length can easily be measured. The diameter of the fiber can be expressed in terms of specific surface area or square centimeters per milligram, and micrograms per inch of fiber (Arealometer and Micronaire).

The number of fiber layers can be expressed in terms of number of fibers per cross section (S). S in turn can be expressed in terms of yarn number (N) and one-inch fiber weight (F).

The constant is determined from actual twist counts of yarns of known strengths.

Number of Fiber Layers. Calculation of the number of fiber layers from a given number of cross section fibers is done with the help of the fiber pattern shown in the accompanying illustration. According to the fiber pattern:

$$S = \frac{6n(n+1)}{2}$$

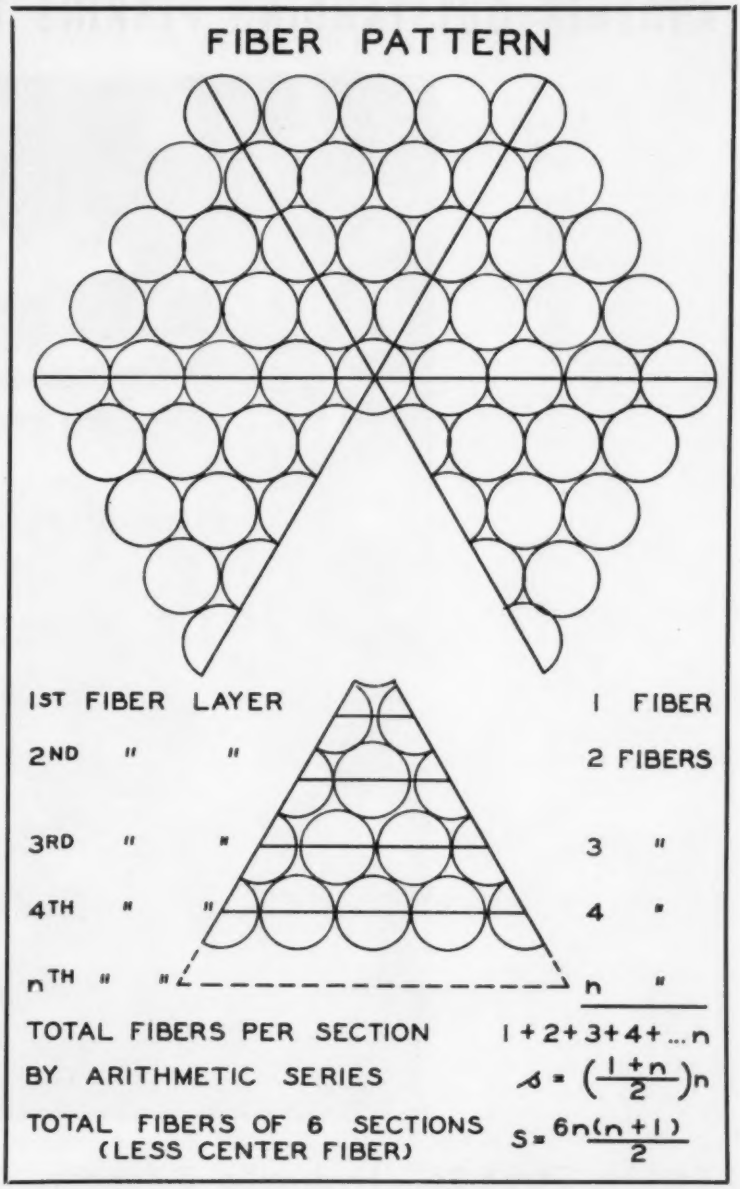
According to the yarn counts-weight method, the following is also true:

$$S = \frac{15{,}000}{NF}$$

where

N = yarn number
F = micrograms/inch

*Filling yarns or yarns later twisted into threads are usually spun at less than optimum twist.



NUMBER OF FIBER LAYERS is calculated with the help of this fiber pattern.

If both values for S are equated and solved by quadratic equation for n, we have

$$n = \tfrac{1}{2}\left(\sqrt{1 + 20{,}000/NF} - 1\right) \qquad (2)$$

Calculation of Fiber Diameter. From Arealometer readings we have specific surface area (a) in square centimeters per microgram; from Micronaire readings we obtain F in micrograms per inch of fiber. The fiber diameter (round fiber) is

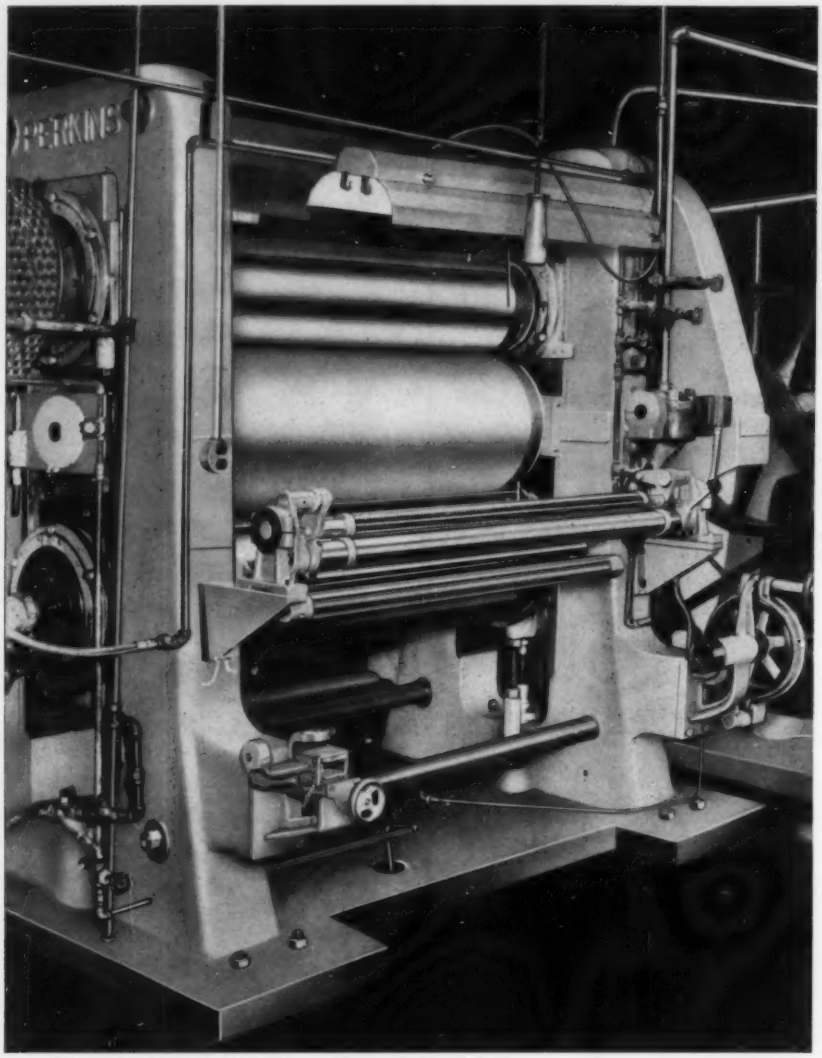
$$d = \frac{aF}{1000} \qquad (3)$$

If the values of formulas (2) and (3) are entered in formula (1), we have:

$$t = \frac{k}{\left(\sqrt{1 + 20{,}000/NF} - 1\right) aFL_m/2000} \qquad (4)$$

Calculation of Constant. If a yarn of Egyptian cotton needed 34 tpi in order to produce a required strength, the constant would be

ANOTHER OUTSTANDING PERKINS TEXTILE CALENDER



Perkins Three-Roll Hydraulic Calender—100 tons gross operating pressure—two chilled iron rolls—one wool felt paper roll—anti-friction bearings throughout—friction brake let-off—three adjustable tension bars—and the famous Perkins mechanism for automatic detection of seams and slubs. A modern, high production calender.

B. F. PERKINS & SON, Inc. • HOLYOKE, MASS.

Southern Sales Office • 1609 Liberty Life Bldg. • Charlotte • North Carolina

PROGRESSIVE TWISTS FOR FILLING AND WARP YARNS

Cotton	Yarn No. (N)	Mean Staple (L_m)	Specific Fiber Surface in cm^2/mg (a)	Fiber Weight in mg/in. (F)	Fiber Layers (2n)	Filling Twist per inch (t)	Twist Mult. Fill.	Optimum Twist Warp	Twist Mult. Warp
Karnak 1-13/32"	100	1.20"	3.34	3.4	6.75	34	3.4	43.5	4.35
	50	"	"	"	9.9	23.3	3.3	29.7	4.2
	10	"	"	"	23.3	9.9	3.14	12.6	4.0
	1	"	"	"	75.8	3.05	3.05	3.9	3.9
Amer. 1⅛"	100	1.04"	2.9	4.5	5.75	40.4	4.04	50.1	5.0
	50	"	"	"	8.5	27.3	3.80	34.5	4.9
	10	"	"	"	20.3	11.4	3.60	14.4	4.55
	1	"	"	"	66.0	3.52	3.52	4.45	4.45

According to formula (5): $t = \frac{3140}{(\sqrt{1 + 20{,}000/NF} - 1)aFL_m}$ Optimum $t = \frac{4000}{(\sqrt{1 + 20{,}000/NF} - 1)aFL_m}$

calculated as follows:

N = 100s
F = 3.4 micrograms
L_m = 1.20 inches
a = 3.34 cm^2/mg
t = 34
k = 34 x 6.75 x 3.34 x 3.4 x 1.20/2000
2000k = 3140 = final constant (k)

Formula (4) then becomes

$$t = \frac{3140}{(\sqrt{1 + 20{,}000/NF} - 1)aFL_m} \quad (5)$$

Conclusions. The constant for optimum twists in the Table is 4000. By optimum twist is meant the twist which will produce maximum yarn strength. For all twist categories softer than optimum, special local constants can be assumed. Thus 3100-3200 will be suitable for filling twists.

Higher than optimum twists are seldom used except for special purposes — novelty yarns, etc.

The proper use of formula (5) for progressive (optimum or less than optimum) twists may prove a saving for coarser numbers.

Twists greater than the optimum result in declining yarn strength in about the same progression as the ascending twists towards optimum produce increasing strength.

The Issue of Free Labor

BY RINGGOLD ARDEN
EXCLUSIVE

"To me it is simply inconceivable that anyone should have to join any organization, under any circumstances."
—Gordon Persons, Ex-Governor of Alabama

NOW that warfare between the CIO and the AFL is theoretically a thing of the past, and the natural conflicts of interest between labor unions have technically been eliminated by the formation of one big labor monopoly, we are constantly reminded by the heads of this monopoly that with its internal bickerings stilled for the time being, this outfit intends to seriously pursue the problem of forcing practically everybody to pay union dues and submit to union discipline.

Nothing seems to be more abhorrent to the dedicated labor leader than the idea that a working man has the right not to join a union, as well as the right to join it. In a recent announcement, Mr. George Meany, president of the new labor combination, said among other things, "The right not to work includes a worker's right to reject conditions of work he can't agree to, and to refuse to work alongside the man who will not join the union."

No reasonable person could possibly question the correctness of this statement. It is a worker's unalienable right to reject conditions of work he can't agree to, and to quit a job that doesn't suit him and to try to find one that does. It is the worker's further unalienable right to refuse to work alongside the man who will not join his union or his lodge or his church or who won't go out and have a beer with him upon invitation.

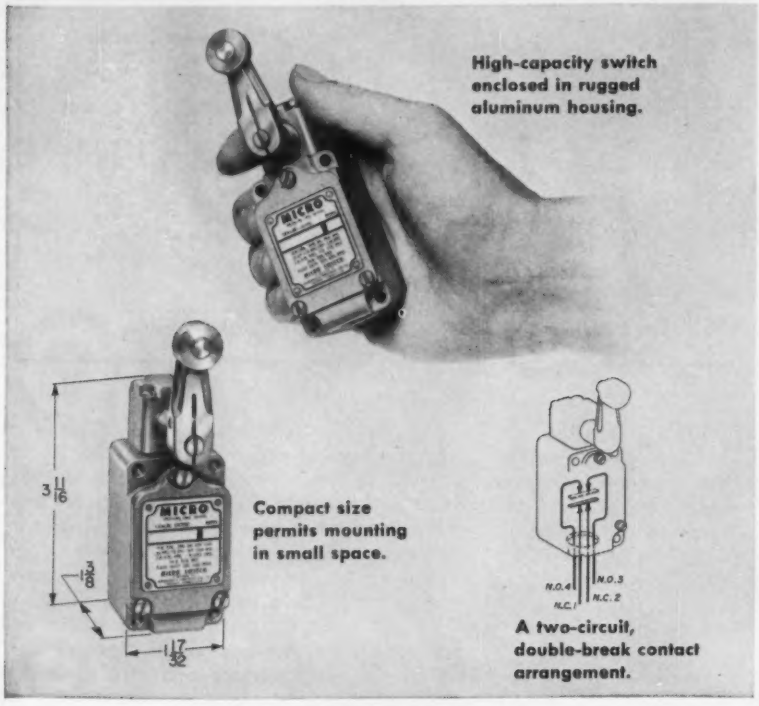
In refusing to work alongside of such an unacceptable person, the worker has an unquestioned right to quit the job and the companion that he finds distasteful. Any person who would deny a workman these rights is certainly no believer in freedom.

Mr. Meany also contended that this "right not to work" was not given proper consideration in the so-called "right to work" laws now effective in many states. We have never heard of any "right to work" law which in the slightest degree infringed any man's right not to work if he could exercise that right without running afoul of the vagrancy laws.

Of course, what Mr. Meany is thinking about is the claim that a worker should have the right not only to reject conditions of work he can't agree to, but to force the change of these conditions to suit himself. Mr. Meany unquestion-

MICRO *precision switches*

...THEIR USE IS A PRINCIPLE OF GOOD DESIGN



Here is a compact 2-circuit switch to meet a wide variety of textile applications

This MICRO precision switch is designed to meet every requirement for a compact 2-circuit switch for use as a limit, safety or interlock switch on many textile machines.

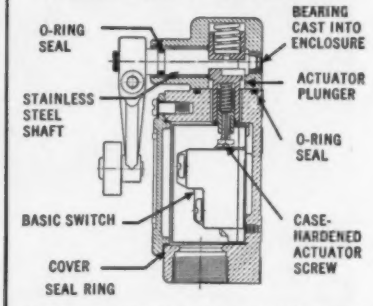
It has small size, extreme versatility, precision, reliability and ruggedness. All moving parts and the switching chamber are completely sealed, protected from wear or becoming fouled. Field adjustability permits its use in practically any type of application or location.

Two-circuit contact arrangement allows flexibility in circuit design. Reliability of the precision, snap-action unit assures accurate repeat operations throughout many millions of hard, fast actuations. Although small and compact in size, this switch is not only a precision instrument. It is designed and built to stand the most severe abuse.

The electrical rating is: 10 amperes 120, 240 or 480 volts a-c; ½ H.P. 115 volts a-c; 1 H.P. 230 volts a-c; .2 ampere 115 volts d-c; .1 ampere 230 volts d-c; .04 ampere 550 volts d-c. Pilot duty rating is: 600 volts a-c, max.

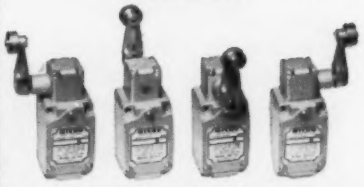
Like many other precision switches in the MICRO SWITCH line, this versatile 2-circuit switch is an ideal component for installation on present textile equipment. MICRO precision switches make machinery safer, more automatic and more productive in many progressive mills.

Seals Provide Maximum Protection



Sealing is provided by use of O-ring seals on the actuator shaft and between the actuator head and the housing. A synthetic rubber ring seal is provided for the cover. These seals provide maximum protection against entrance of dust, oil and other liquids. The switch meets NEMA specifications for an oil-tight pilot device.

Adjustable Head Assembly



The switch is easily mounted in almost any location. The user can remove the head and locate it in any of 4 positions (as illustrated).

Field Adjustable Actuator

The roller arm actuator is field adjustable through 360 degrees, positively locking in any position. Actuators are assembled to operate in either direction. They can also be converted to operate in one direction only, clockwise or counterclockwise.

Send for new catalog 83 on industrial enclosed switches.

MICRO precision switches are sold by distributors in key cities everywhere. Look under "Switches, Electric" in the yellow pages of your phone book.

MICRO SWITCH

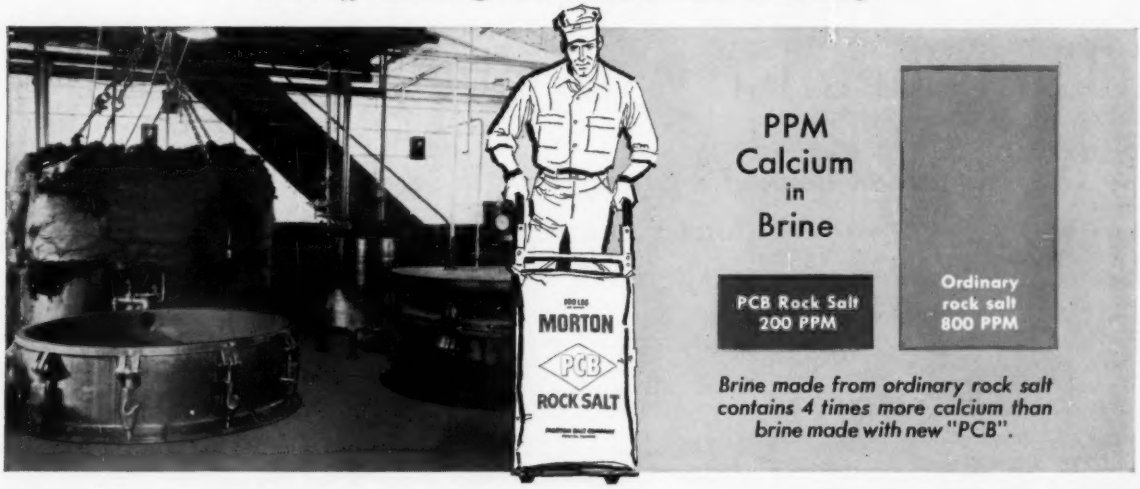
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

New! Morton "PCB" Rock Salt

for low cost, low calcium brine!

Saves money on sequestering agents! Eliminates streaks and off-shading! Increases color intensity!


MORTON
PCB
ROCK SALT
PPM Calcium in Brine
PCB Rock Salt 200 PPM
Ordinary rock salt 800 PPM
Brine made from ordinary rock salt contains 4 times more calcium than brine made with new "PCB".

Morton "PCB" Rock Salt, a patented process for making low calcium brine, combines screened southern rock salt with chemicals that prevent the harmful calcium compounds that occur naturally in rock salt brine from going into solution.

As the chart above shows, "PCB" Rock Salt brine contains *75% less calcium* than brine made with untreated rock salt. (The less than 200 PPM calcium in "PCB" brine is inactive.) What's more, "PCB" can be used in your present rock salt dissolving equipment without additional construction or extra labor.

Available in 100-lb. bags or bulk, "PCB" is specifically recommended when brine is used in dyeing, rawstock, package, beam, beck or jig with either sulphur, direct or naphthol dyes. ("PCB" also can be used effectively in your water softener.)

"PCB" BRINE

● Saves money on sequestering agents ● Improves crock fastness with naphthol dyes ● Increases color intensity where sulphur dyes are used ● Results in softer finishes, more even shades ● Aids in retarding corrosion ● Is far less expensive than brine produced from purified low calcium evaporated salt.

FREE! Let a Morton Brine Engineer take a sample of the calcium content in your water and brine. He'll have it analyzed and tell you how much you can reduce the calcium content by using "PCB" Salt.

MORTON SALT COMPANY
INDUSTRIAL DIVISION
Dept. TI-3, 120 So. La Salle Street, Chicago 3, Illinois

Please send me your free booklet on "PCB." _____
I would like a Morton Brine Engineer to make a calcium analysis of water and brine in my plant. _____

Name _____
Title _____
Company _____
Address _____
City _____ State _____

Dow

In their brief but exciting history, chelating agents have encountered reactions ranging from scoffs and disbelief to overzealous exaggeration about their application. But the air is clearing. Already they are serving as important tools in many industrial processes. This is the beginning of a series on chelating agents designed to further clarify what they are, what they will do—and won't do.

The Chemistry of Chelation: Part I

Chelation defined · Example of the reaction · Variety of applications · Future of chelating agents

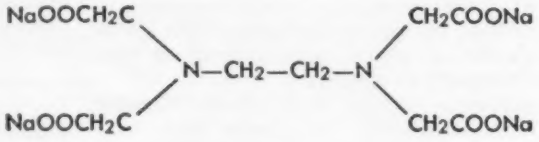
Polymerization of synthetic rubber controlled . . . soap kept white and sparkling on the dealer's shelf . . . textiles bleached and dyed with permanent uniform colors . . . pharmaceuticals stabilized. Unrelated reactions? Certainly. However, all are accomplished by a group of closely related chemicals called chelating agents. How do they work? Well, it's not magic, but chemistry—in a way, fairly basic chemistry. But let's begin at the beginning.

What Is Chelation?

Let's look at the word chelation. It is derived from the Greek word *Kelos* which means "claw." Simply stated, a chelate is a claw which holds a metallic ion inactive in solution. Chemically stated, chelation is a chemical reaction in which polyvalent metallic ions are reacted with organic reagents (chelating agents) to chemically inactivate these polyvalent metallic ions in the form of an extremely stable, water-soluble chelate.

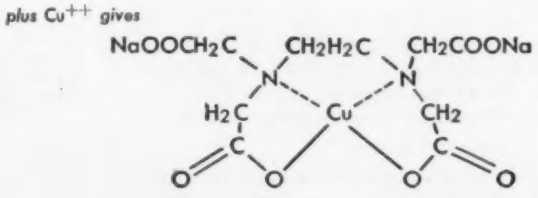
Typical Reaction

If we examine a typical reaction, the process of chelation becomes quite clear. Let us take, for example, the chemical structure of Versene®, one of the Dow chelating agents.



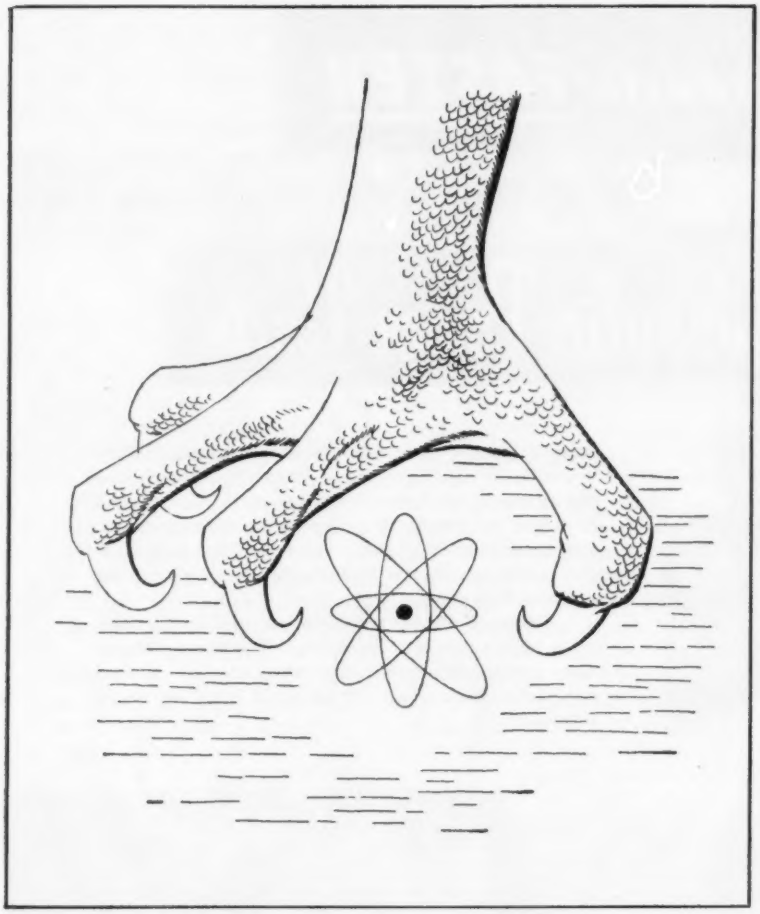
Versene

Now, if we place the Versene in a solution which contains free polyvalent ions of copper (Cu^{++}), the following is the result:



Versene Copper Chelate

The resultant compound is Versene copper chelate. The copper ion has become a member of an inner ring structure in the molecule. The result?



It is inactivated. It cannot react with soap to cause darkening and stain during storage.

It can't cause breakdown of pharmaceuticals. It can't cause any trouble anywhere because it is locked in the Versene claw. It will stay locked in unless it is desired to reverse the process. This reverse action is used in polymerization of synthetic rubber—ions of iron being released at a predetermined rate by the chelate.

Variety of Applications

The most important thing, however, is that this "claw" property of chelating agents such as Versene makes it possible to solve a multitude of processing problems in industry. They've been used in tanning leather and tenderizing peas.

They can descale boilers, soften water and cure acute lead poisoning. The number of current industrial and medical applications is large, but the potential in unexplored areas is enormous.

And the Future?

The future of these products will hinge on the imagination and insight of chemists and engineers, of production men and purchasing agents, in nearly every industry. Wherever metal contamination poses a problem or wherever controlled introduction of metal ions is desirable, these chemicals warrant investigation.

Versene and other Dow chelating agents won't solve them all. Chelation is not a panacea. It will work chemically in some areas—it will fail in others. However, it is Dow's intention to assist in every way in the uncovering of processes in which chelating agents can be profitably used. Inquiries on your company letterhead will be handled with dispatch. We will be pleased to provide information and technical assistance. Write to Technical Service and Development, Dept. SC 900L, THE DOW CHEMICAL COMPANY, Midland, Michigan.

The next three topics in this series

PART II June — The Versene and Versenol® series of Dow chelating agents (what they are, strength and stability features—Versenol lower cost, less strength). Also—how chelating agents are specified (product performance versus chemical composition).

PART III August — Specific chelating agents for specific applications—(agent for iron control depends on pH—Versene Fe-3 Specific® for iron and transition metals on the alkaline side, Versene T® for iron in presence of free caustic—other solutions to special problems).

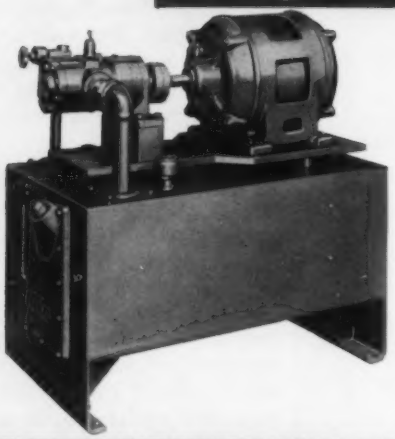
PART IV October — Applications in specific industries (formulation of alkaline cleansers—stabilization of hydrogen peroxide and Kier boiling in textile processing—uniform control of metal trace catalysts in polymerization of synthetic rubber—other industrial applications).

you can depend on DOW CHEMICALS DOW

BETTER products FASTER

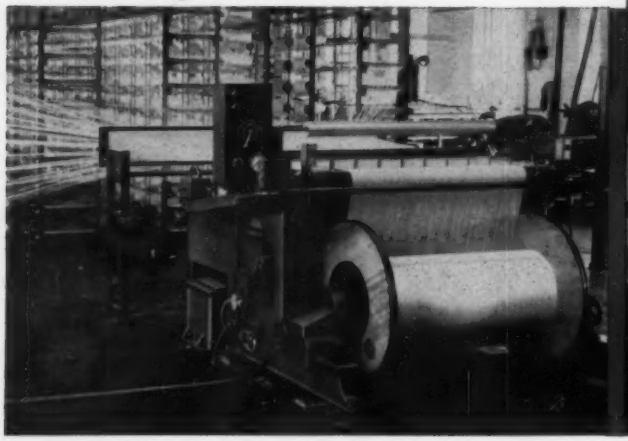
When Your Textile Machinery has

VICKERS Hydraulic Power Units

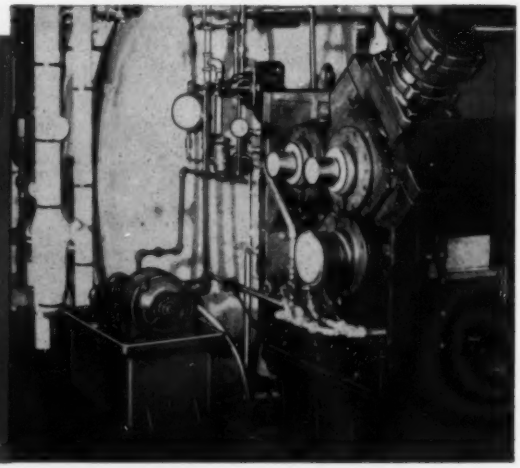


Dependable and practically maintenance-free, Vickers Hydraulic Power Units are a compact self-contained power source for hydraulic systems on a wide variety of textile machinery. They frequently simplify design and save installation costs. Many are standard stock units while others are individually designed for the machines they serve.

Vickers Hydraulics has numerous additional advantages for the user and the builder of textile machinery. Note applications below and then ask our nearest Application Engineering Office for a copy of Textile Bulletin 54-66.



WARPING UNIT
Delivers larger warps of uniform density. Stepless control of beam against press roll prevents scuffing. Vickers Hydraulic System is completely adjustable to meet all conditions. Accommodates beam heads up to 40" diameter.



HIGH TEMPERATURE CONTINUOUS DYEING MACHINE
Provides faster continuous dyeing by dye bath at temperature above atmospheric boiling point in pressure vessel. Cloth passes in and out between rolls that form pressure seal. Nip pressure between rolls is provided and held uniform by Vickers Hydraulics.

FOR FURTHER INFORMATION
Ask For
BULLETIN 54-66

VICKERS Incorporated
DIVISION OF SPERRY RAND CORPORATION
1554 OAKMAN BLVD.
DETROIT 32, MICH.

Application Engineering Offices: • ATLANTA • CHICAGO • CINCINNATI • CLEVELAND • DETROIT • HOUSTON • LOS ANGELES AREA (El Segundo) • MINNEAPOLIS • NEW YORK AREA (Summit, N. J.) • PHILADELPHIA AREA (Media) PITTSBURGH AREA (Mt. Lebanon) • PORTLAND, ORE. • ROCHESTER • ROCKFORD SAN FRANCISCO AREA (Berkeley) • SEATTLE • ST. LOUIS • TULSA • WASHINGTON • WORCESTER
IN CANADA: Vickers-Sperry of Canada, Ltd., Toronto

Engineers and Builders of Hydraulic Equipment Since 1921

ably means that if a worker "has the right to refuse to work alongside the man who will not join the union," this man must be forced to join the union, instead of the discontented union man quitting the place and going to some strictly union shop.

There was no expression from Mr. Meany regarding the attitude of the non-union man who is perfectly willing to work alongside the man who does belong to the union, but who doesn't want to join it himself. In good labor union doctrine, this man has no rights worthy of consideration.

There are people who don't want to join unions. As a matter of statistical fact, about three-fourths of the workers in the country don't want to join unions. This must be so, because under our trick labor laws which are always stacked in favor of the unions, there is no possible way to keep anybody who wants to join a union from doing so, and therefore if three-fourths of the working force of this country are non-union, there can be no doubt that they stay out of the unions by preference.

It is quite certain that not all people who belong to unions want to belong to them. There is no possible way of telling how many thousands, or perhaps millions, of the people now belonging to the unions have been driven into them by force. Certainly, the number is enormous, because in addition to unionization by plain thuggery, which frequently occurs, we have the undoubted instances of votes on the subject, where the union has carried the election by a trifling plurality, but under the law the people who voted against the union, and who must have done so because they didn't like it or want it, have been forced to join it or lose their jobs.

We are constantly reading about union elections involving hundreds or thousands of persons where perhaps a bare 51 or 52 per cent of the votes favored the union, and it is reasonable to assume that the 48 or 49 per cent of the people who voted against the union are later unwilling members and would gladly get out if they could. We have personally known of people who gave up jobs and endured considerable hardship rather than join a union, into which they had been voted against their wishes.

The issue of free labor is simply an extension of the issue of freedom itself. If a man wants to join a labor union, he should have a perfect right to do so. If he doesn't want to join it, he should have a perfect right to stay out.

If a man doesn't want to work anywhere except in a union shop, and he can find one, he should have a perfect right to get a job there if he can. If a man doesn't want to work in a union shop, he should certainly not be forced to.

There are people who feel just as strongly on the subject of not belonging to unions as other people feel about belonging to them. There are many people who believe that unions are beneficial, useful, wonderful things. There are other people who believe that labor unions are vicious, autocratic, dangerous rackets with which they want nothing to do. Each man should be entitled to his own opinion, and have the right to seek employment that suits him wherever he can find it.

There is nothing less tyrannical about being forced into a labor organization you detest, than about being forced to join any other organization which is repugnant to you, whether it is a political party, a social club, a secret society, or a church. We are either free or we aren't free, and a man who has to pay tribute to, and be subservient to, an organization of which he disapproves, has lost his freedom. The various so-called "right to work" laws passed in different states have simply been efforts on the part of free people to protect their freedom.

Any organization which can force people to join it against their wishes, by economic or physical pressure, is a racket and unworthy of the protection of the laws. If a labor union is this kind of an organization, it *ought* to be destroyed.

Mr. Meany was also quoted as saying that the National Association of Manufacturers is waging an unrelenting campaign to destroy labor unions, and has been for 60 years. If the NAM had not been waging a campaign against the kind of labor union development that we have seen in the last 25 or 30 years, it would not have been serving the best interests of its members or the cause of a free competitive economy. The NAM during the years that we have been acquainted with its operations has been opposed to labor monopolies, and not to unions per se.

That is our own position.

There can be no reasonable objection to associations of employees intended to look out for their interests in the particular place where they are employed, and many concerns had such associations of their employees, and approved them and helped them function. Such associations are targets for the most vitriolic scorn on the part of professional labor people, who refer to them as "company unions," completely dominated by the employers, when of course they ought to be dominated by some outside racketeers who can profit from the dues collected from these people.

The professional labor union people scornfully refer to those who refuse to join unions as "free loaders." They are so infatuated with supposed benefits of union membership that they feel that the non-union people on a payroll are getting something for nothing. Perhaps the man who refuses to join the union does not feel this way about it at all. Maybe he has done a little figuring on what the union has done for him, or perhaps *to* him, and has decided that the union people are a bunch of troublemakers who have caused him losses instead of conferring benefits.

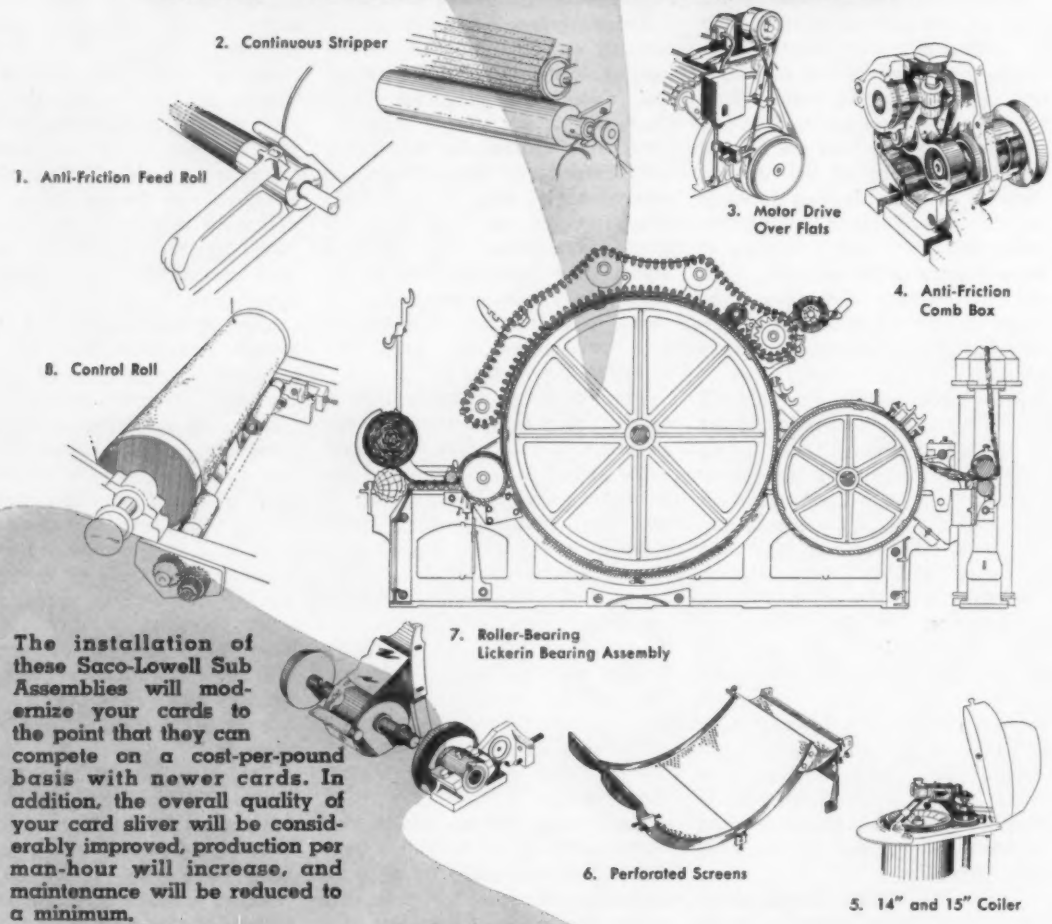
The average wage for industrial workers is something more than $75 a week. This includes the highly overpaid people who belong to labor monopolies which are in a position to force constant pay increases at the expense of the general public, and it also includes the obviously underpaid people who are not connected with monopolies, whether they belong to unions or not.

A man earning this average wage and reflecting that he has reached it by a succession of strikes

(Continued on page 215)

Modernize

YOUR SACO-LOWELL CARDS WITH THESE 8 SUB ASSEMBLIES


2. Continuous Stripper
1. Anti-Friction Feed Roll
3. Motor Drive Over Flats
4. Anti-Friction Comb Box
8. Control Roll
7. Roller-Bearing Lickerin Bearing Assembly
6. Perforated Screens
5. 14" and 15" Coiler

The installation of these Saco-Lowell Sub Assemblies will modernize your cards to the point that they can compete on a cost-per-pound basis with newer cards. In addition, the overall quality of your card sliver will be considerably improved, production per man-hour will increase, and maintenance will be reduced to a minimum.

Write to your nearest Saco-Lowell Office — a Saco-Lowell Sales Engineer will be glad to supply complete information on Card Modernization and suggest a specific program.

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Write to the Editors!

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

Readers Discuss Causes of Width Variation in Finishing

EDITOR TEXTILE INDUSTRIES:

We are engaged in the manufacture of grey heavy sized calendered coarse cotton goods. The goods in the loom state do not vary in width more than ⅜", but after calendering the variation in width of a piece of 60 to 90 yards is from 34¼" to 36¼". This does not happen in every piece, but does happen quite often.

We would be interested to know the methods by which the variation can be held to a very minimum.

We would also like to know if there is any special type of equipment apart from ordinary expanders which will reduce this variation.

CONTRIBUTOR NO. 8814
(India)

Several finishers were asked to comment.—Eds.

EDITOR TEXTILE INDUSTRIES:

We assume from the inquiry that the finisher calenders the goods in the loom state. We gather from the width variation he has that it is due to lack of uniform tension as the goods are calendered.

If the goods enter the calender nip from boxes, a three- or five-roll adjustable expander in front of the calender nip should permit the operator to adjust width properly on the entering side of the calender. If the cloth on the delivery side is doffed into boxes, width variation should be no greater than one-half inch.

On the other hand, if goods are run from rolls, it is necessary for the operator to change the setting of the expanders as the roll diminishes in size. Again, on the delivery side of the calender, if the goods are batched on rolls, it is necessary to adjust the brake arrangement as the roll builds up, so that too great tension is not applied, causing the cloth to come down in width.

Inquirer does not state whether cloth is dampened before calendering. If this is the case, the fabric is more susceptible to width changes than if it were run dry. If the cloth could enter the calender from boxes, and with minimum tension and could also be delivered into boxes, we believe inquirer would have much less trouble with his widths. Running from roll to roll requires very careful attention by the calender operator in setting of his expanders and the braking arrangement on the delivery side of the calender to avoid too great variation in width.

Batchers can be obtained, equipped with "soft" motors and also with a-c motors which transmit their energy through fluid transmission, so that tension on the

(Continued on page 161)

KINK CONTEST!

$100 will be awarded the winner

Send your entry now! This contest ends April 15, 1956

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, April 15, 1956.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

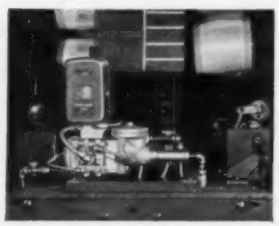
Send your contest entry to:
Editor TEXTILE INDUSTRIES,
806 Peachtree St., N. E., Atlanta 8, Ga.

OWENS CORNING FIBERGLAS YARN PLANT

Keeps yarn clean... Keeps costs down!

WITH TIME-CLOCK-CONTROLLED *Lincoln* CENTRALIZED LUBRICATION

Without stopping production for a second, these automatic twister rings at Owens Corning's Ashton, Rhode Island plant are lubricated automatically. A pre-set electric time clock cycles the air pump, forcing refinery pure lubricant into the bearings.



Of course, this eliminates the costs of man-power and machine down-time for hand oiling. Equally important, it eliminates the hidden costs of hand oiling . . . yarn spoilage caused by oil dripping from over-lubricated bearings . . . and excessive wear resulting from inadequate lubrication.

***LINCOLN** Centralized Lubrication slashes costs in all operating categories . . . puts the right lubricant in the right place at the right time . . . automatically!*

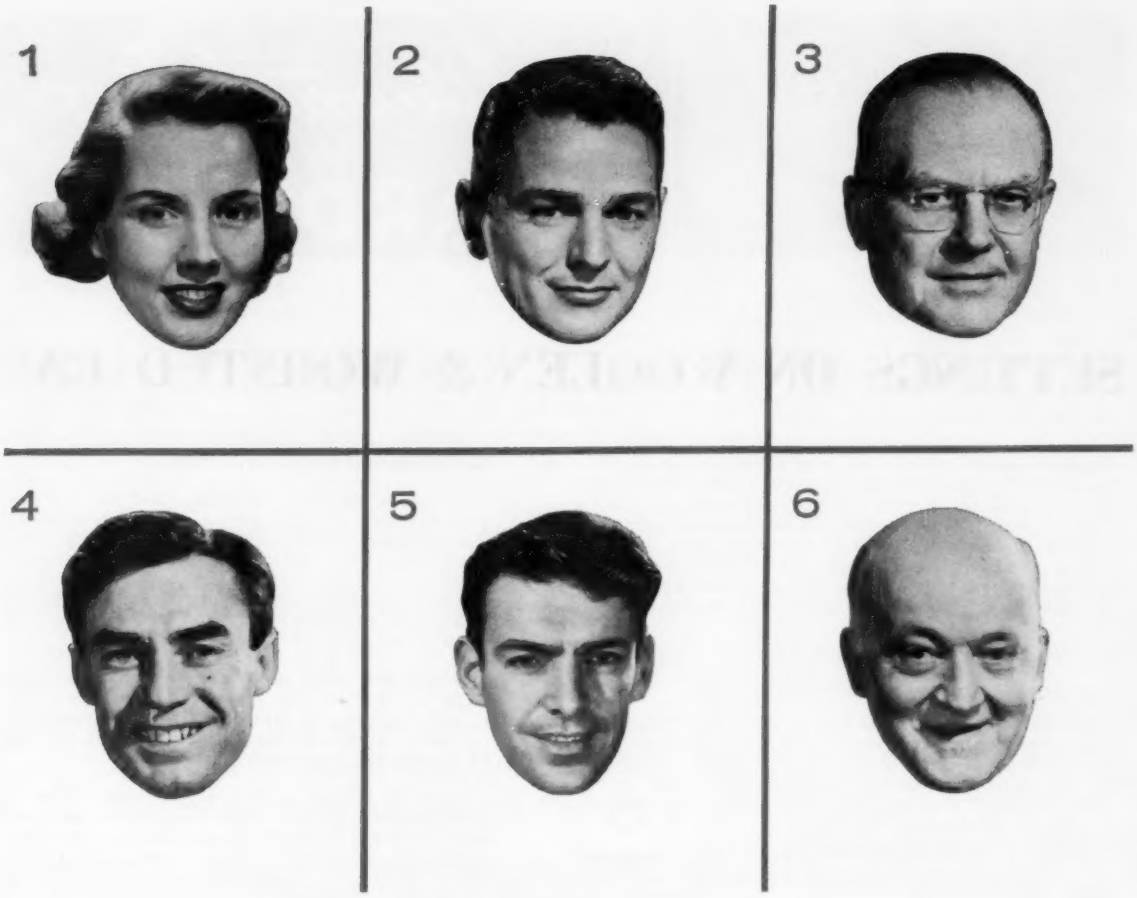
Write For Complete Details . . . your free copies of catalogs 80-1 and 806 are ready and waiting!

Lincoln

LINCOLN ENGINEERING COMPANY

5702-16 Natural Bridge Avenue • St. Louis 20, Missouri

. . . THE MOST TRUSTWORTHY NAME IN LUBRICATING EQUIPMENT



Can you pick the SOLVAY Salesman?

They all are! The girl from accounting, the young man from traffic, the production expert or the man who fills the bags, the chemist in quality control, the old-timer in shipping . . . at Solvay everyone helps create sales by serving the customer.

The man you know—the salesman who calls on you—isn't shown; however, there's a staff of 6,000 men and women working with him to service your account. The service they render is just one reason why so many customers stay sold on Solvay.

But, Solvay service doesn't end with the sale. To many customers Solvay's Technical Service is the big plus value. This department stands ready to help you with process or product problems by supplying services not ordinarily available—at no extra cost.

Yes, Solvay salesmen—all 6,000—serve our customers. Call Solvay and see!

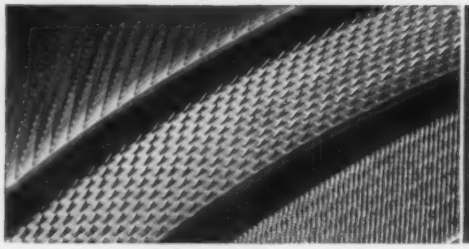
AMERICA'S FIRST PRODUCER OF ALKALIES — SOLVAY — 75th YEAR 1881-1956

Soda Ash • Snowflake® Crystals • Chlorine
Potassium Carbonate • Calcium Chloride
Sodium Bicarbonate • Ammonium Chloride
Ammonium Bicarbonate • Caustic Potash • Chloroform
Sodium Nitrite • Caustic Soda • Methyl Chloride
Cleaning Compounds • Methylene Chloride • Monochlorobenzene
Para-dichlorobenzene • Ortho-dichlorobenzene • Hydrogen Peroxide

SOLVAY PROCESS DIVISION
ALLIED CHEMICAL & DYE CORPORATION
61 Broadway, New York 6, N. Y.

Allied Chemical

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
Houston • New Orleans • New York • Philadelphia • Pittsburgh
St. Louis • Syracuse



Ashworth Tips ON CARDING

No. 27 in a Series

SETTINGS ON WOOLEN & WORSTED CARDS

In woolen and worsted carding, the card is so constructed that the various rolls can be set or adjusted so as to suit the particular type of stock being processed at the time. The type stock being processed and its preparation before being presented to the card are the determining factors as to what the settings should be. In short, there are no *definite* rules to follow in the setting of a woolen or worsted card and a change of stock on a card may call for a complete change in settings to produce satisfactory roving.

I. Importance of Correct Settings

In setting the card two points should be noted.

a. Rolls set too closely can damage the card clothing and cause fibre breakage resulting in a loss of yield. The efficiency of the card clothing is lessened and grinding becomes necessary to restore the sharp point needed for good carding. This in turn can shorten the life of the card clothing.

b. Rolls set too far apart tend to produce neps, resulting in poor roving and defects in the finished cloth.

II. Graduation of Settings

So that the action of the rolls from breaker card through finisher card will be an even one, the breaker section is generally more open-set to handle the unopened stock. As the stock progresses through the card and parallelism of fibres takes place, the rolls are set closer to complete the carding job. Too close a setting on the breaker section can cause unnecessary damage to the card wire (by packing the stock) and eventual loss of pitch.

III. Settings that Call for Special Attention

a. *Tumbler and Angle Strippers.* These rolls are important in that they must transfer stock to the cylinders where the carding action takes place. Improper settings can cause uneven distribution of the stock, resulting in poor carding. Also, the surface speed and condition of the card clothing on the tumbler and angle stripper are important, for a little neglect results in the dropping or throwing of stock.

b. *Fancy.* Since the fancy is often called the most important roll on the card, proper settings are essential. Two points should be considered in the setting of the fancy.

1. Excessive speed, no matter how carefully the setting is made, will throw stock and create excessive fly or waste.

2. Insufficient speed can cause packing of the stock in the cylinder and eventual shelling out of the wire — due to wrapping of the stock around the fancy and the additional strain placed on the wire in trying to keep the cylinder clean.

CONCLUSION: There are no definite rules to follow in the setting of a woolen or worsted card, for the stock and its condition when presented to the card are the determining factors. Correct settings mean even roving and a greater efficiency for a longer period of time from the card clothing.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
E. G. Paules, Representative — Los Angeles, Calif.
*Factory †Repair Shop ‡Distributing Point
3 Factories • 6 Repair Shops • 7 Distributing Points

PRODUCTS AND SERVICES

Clothing for Cotton, Wool, Worsted, Silk, Synthetic Fibre and Asbestos cards and for All Types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Topflats Reclothed.

NOTE: All rights reserved. Reprints, free of charge, on request to Ashworth Bros., Inc., Fall River, Mass.

Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

Width Variation

(Continued from page 157)

delivery side is constantly maintained, regardless of size of roll. If roll-to-roll operation on the calender is the practice, such type of equipment might assist in controlling width.

CONTRIBUTOR No. 8829

EDITOR TEXTILE INDUSTRIES:

Our procedure here at the bleachery I feel is about as near perfection as possible. First of all, before calendering the goods we give them whatever process is desired. In some instances the goods are bleached, dyed, and Sanforized. Sometimes they are just grey goods.

After we have applied any one of the processes they are then put over a ninety-foot tenter frame, setting the frame for at least ¼" wider than the desired width, and dried. They are then put over a calender with a Mycock three-roll expander and this helps us to hold the width within ⅛" so that when the goods come off our calender they are absolutely uniform, piece after piece and lot after lot.

CONTRIBUTOR No. 8830

Other comments:

"The fact that he gets only a ⅜" variation in his grey goods before calendering certainly indicates that there must be considerable variation in tension at his calender wind-up. He must find what is causing this variation in tension. He might contact Marshall & Williams in regard to one of their small tenterettes."

"If your CONTRIBUTOR steams his goods in a tenter frame, which will pull the threads straight, when he calenders the goods after tentering he should not have this variation."

"It seems to be a problem of better tension control on the fabric as it enters the calender. We would suggest checking the brake on the take-off bar. It may be binding in one area, which would apply varying amounts of tension to the cloth. Feeding the cloth directly from a tenter frame to the calender would assure a uniform tension. Also, it might be advisable to fold the cloth in boxes or on flat trucks after calendering, to eliminate uneven tension in rolling the cloth on a shell."

"I do not believe that an open frame fitted with steam pipe will be adequate to control variations in width such as the CONTRIBUTOR described. It seems to me that he will have to have a heated tenter frame such as is commonly used for drying for this application.

HOW OTHER MEN MANAGE

This Mill Truck-Trailer Has a Permanently Mounted Crane

Photo by Delmont Wilson

This overhead traveling crane has been permanently installed in the trailer of a truck operated by Kingsboro Mills, Inc., Daisy, Tenn. It operates either from the compressor for the air brakes of the truck, or from the mill supply line. If the truck's compressor is used, an accumulator is required for best operation.—*Staff.*

Tufting Yarn Spinner Shares Know-How On Making Thinning Scissors

The following exchange of correspondence is presented as a good example of cooperation between mills, with TEXTILE INDUSTRIES *acting as intermediary.*

EDITOR TEXTILE INDUSTRIES:

In the June [1955] issue of TEXTILE INDUSTRIES [page 165] there was an article regarding knotless tufting yarns. One of the illustrations showed a pair of thinning scissors which were toothed near the end of one blade.

We are experiencing difficulty in making up a pair of scissors of this type, and would appreciate your advising us as to their availability; or, if they were made up in a machine shop, how the slots were cut.

J. G. BRIGG
General Purchasing Agent
Dominion Textile Co. Ltd.
Montreal, Canada

(Continued on page 162)

Yarn-Thinning Scissors

(Continued from page 161)

Dear Mr. Brigg:

The scissors were made in the machine shop at the Revonah Spinning Mills, Hanover, Pa., and as far as we know are not available commercially.

We are getting in touch with Revonah to obtain further details for you.

EDITOR, TEXTILE INDUSTRIES

EDITOR TEXTILE INDUSTRIES:

As requested, we are enclosing a sample pair of the thinning scissors used in our rayon mill.

The slots were cut in these scissors using a fine-tooth hack saw blade.

JAMES MILLAR
Assistant General Manager
Revonah Spinning Mills

Having Trouble With Corduroy Selvage Ends? Read This

EDITOR TEXTILE INDUSTRIES:

We weave corduroy, using 31s warp and 21s filling, on 44-inch Model K looms. The fabric construction is 90 x 138, with 3973 ends in the warp, including 52 three-ply selvage ends. We use a 28 reed, three ends per dent. Width from the loom is 44½ inches. The warp is drawn on four double-rib harness frames, and we use auxiliary cams.

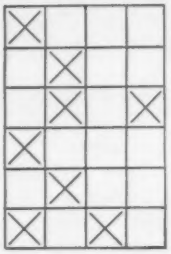
We are having trouble with ends cutting out near the left-hand selvage. Could you give us some suggestions on how to prevent this?

CONTRIBUTOR No. 8847

DEAR SIR:

We have discussed the matter with another weaver of corduroy and although he has heard of mills having trouble with ends cutting out near the left-hand selvage, he has never experienced this himself. He has tried any number of loom settings, but without any trouble such as you describe.

This mill man uses regular Draper corduroy cams, using the cam plan shown; and, while his construction is close to yours, there is a difference in the way he handles his selvages. You are using three-ply selvages, and he uses two-ply. He is of the opinion that your selvages are too heavy, and suggests that you try 30s/2 or 36s/2. His selvage is 26 ends of two-ply.



He is using the Draper Bulldog temple, which you may wish to try. A further suggestion is that you set your temples to hold the selvage in a straight line with the reed; sometimes this is difficult to do with a conventional temple on corduroy.

He also comments that it is necessary to run a tight warp.

Since this man has tried various settings without running into your trouble, he feels that your difficulty is not due to loom settings, but to the foregoing points.

EDITOR, TEXTILE INDUSTRIES

Planning Prevents Bottlenecks In Hosiery Manufacturing

EDITOR TEXTILE INDUSTRIES:

If we were to look at a hosiery mill's order sheet, undoubtedly a number of orders would be marked something like this: "Delivery must be made by the 20th or CANCEL." It is not difficult to understand why these orders are so marked. A buyer cannot tolerate delays, for his market must be satisfied . . . now . . . or maybe not at all.

Delivery by a certain date calls for a lot of planning by the hosiery mill personnel. Even when business is not rushed most hosiery manufacturing is a complicated business. Few mills are equipped to make all the materials that go into their product. For example, most mills depend upon another supplier for yarns and rubber for elastic inlays, thereby further complicating the work of the planning department.

Production Control. Production control is the solution to bottlenecks in the plant. The "big three" of production control are routing, scheduling, and dispatching. Although the details of the mechanical devices of production control systems vary, all such systems provide for these three essentials.

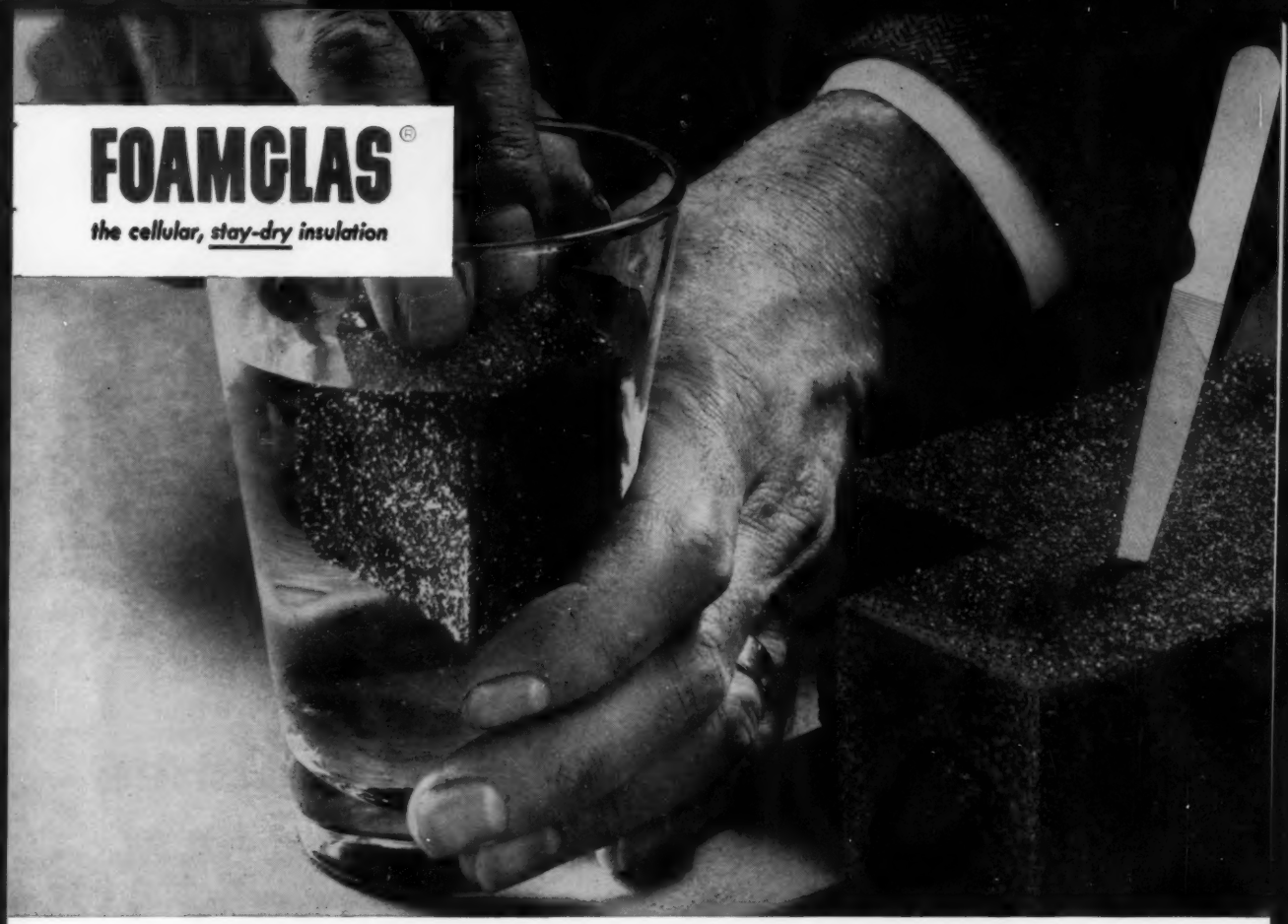
Routing. Every order coming into the plant should be broken down into lots, groups, and smaller increments as local conditions require. For each of these lots or groups, route sheets are prepared. In our mill we show the operations to be performed, the mill departments to be utilized, the machines to be used, pattern changes required, and the time allotted for the pattern changes.

Scheduling. If there is no definite delivery date set on the order, it is usually put aside and scheduled as other work permits. If a due date is set, it is important to work backward from this date and plot a schedule for the order. This indicates the day that production must be started on that specific order, provided the raw materials necessary are already in hand.

If the required raw materials are not in hand there must be sufficient time to obtain them before the date production is to be started, or trouble is certain to arise. It is not uncommon for some mills to produce a quantity of knit

FOAMGLAS®

the cellular, stay-dry insulation



STAYS DRY—Cut a piece from your sample. Place it in water. Note how the hermetically-sealed glass cells filled with dead air keep it afloat. Weight it down for days, weeks or longer if you like. Remove the weight and it bobs back to the surface . . . proof that the sealed cells have absorbed no water, still have their original insulating efficiency.

Send for a sample and make these simple tests!

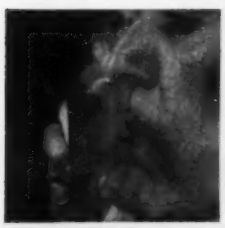
Prove to yourself that FOAMGLAS is your ideal insulation!

Let us send you a free sample of FOAMGLAS. Use it to make the few simple tests illustrated. You'll prove that this unique cellular glass insulation has exactly the right combination of properties to assure you of these vital benefits: constant insulating efficiency . . . long, maintenance-free life . . . strength and rigidity for a variety of structural applications . . . and ease of handling and installation.

Thousands of users have proved in actual performance the benefits so clearly demonstrated by these tests. No wonder, then, that new users every day are picking FOAMGLAS to insulate the roofs, ceilings, walls and floors of all types of buildings, low temperature spaces, piping and equipment. Send for a sample today and make your own tests. Please write . . .

Pittsburgh Corning Corporation

Dept. AG-36, One Gateway Center
Pittsburgh 22, Pa.
In Canada: 57 Bloor St. W., Toronto, Ontario



VAPOR-PROOF—With a nail file, cut a ¼" thick slice from your sample. Hold it to your lips and try to blow smoke through it. The smoke won't penetrate . . . proof that FOAMGLAS is a positive vapor barrier in itself.

STRONG AND RIGID—Place your FOAMGLAS block on the floor. Stand on it. Note how it supports your weight without crushing. Compressive strength is over seven tons per square foot . . . making it ideal for load bearing applications.

INORGANIC AND FIREPROOF—Hold a flame to your sample. You'll see at once that it does not burn . . . a major safety feature in all construction. It's even acid-proof and rodent-proof as you can prove if you happen to have a vial of acid or a pet rat handy.

LIGHT WEIGHT—Just pick up your sample to see how light and easy to handle it is. Check actual weight on your company's postal scale if you wish. The density of FOAMGLAS is only 9 pounds per cubic foot.

EASY TO SHAPE AND CUT—Shave some strips off your sample with an ordinary paper clip . . . workmen use knives, saws or trowels for quick shaping and fitting on the job.

for pure finish...

VICTOR P-40-U

BRIGHTER SHADES AND WHITES...
SMOOTHER HAND

improved finishing starches

for backfill...

VICTOR 10-55

ALWAYS UNIFORM...CARRIES MORE TALC...
MORE MELLOW HAND

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Processors of corn, wheat and blended starches for industry since 1898

Charles C. Switzer, Vice President
TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA

goods, only to find the day before delivery is due that someone failed to order enough yarn of a certain kind to finish the order completely. The order may be lost for lack of a few pounds of yarn.

Dispatching The dispatcher issues all the necessary forms, sheets, drawings, and orders as needed. Dispatching is done according to the routing already planned, and also according to the time schedule established for the beginning and end of production on the order.

The dispatcher should check the progress of the order frequently, and recommend any changes that may be necessary until the order is completed and ready for delivery.

We think every mill needs production control; without it we could not attain full production potential or the lowest cost of operation. Smaller companies as well as the larger ones can adopt improved production controls and in many instances find the task of installing controls a simple one.

It is not necessary to introduce production control methods all at once. We introduced each of the steps separately and fitted it in as an individual part of the master program.

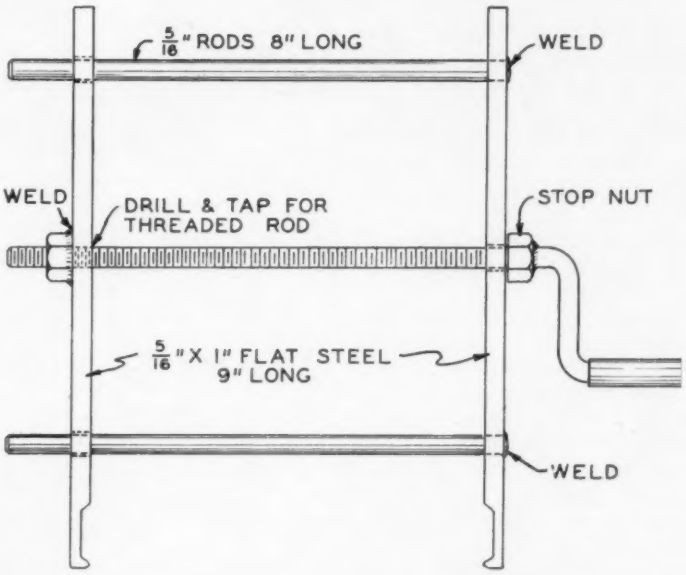
We have found that any production control system depends upon the selection of the right men to develop and carry on the work. Specialists in industrial and administrative engineering sometimes help in setting up production control systems. After the specialists have gone, however, there are always some changes that the executives want to make on their own, and always it is the shop men or office men with supervisory or executive ability who are left to assume the duties and to perform the work of production control.

Whatever is done in your production control program, it is not wise to reduce its effectiveness by the use of incompetent personnel or to try to make it go with too little help. Production control will amount to nothing unless it is well and completely organized and manned.

CONTRIBUTOR No. 8836

HOW OTHER MEN MANAGE

Make This Stretcher to Pull Lattice Aprons Tight



EDITOR TEXTILE INDUSTRIES:

Anyone who is familiar with the job of installing new lattice aprons on opening, blending, and picking machinery knows how exasperating it can be. A new apron should be tight, and sometimes it seems almost impossible to draw the apron ends together for pinning.

Here is a drawing of a tool we made to do the job. The slotted ends of the bars hold the ends of the lattice apron. The apron is pulled together for pinning when the crank is turned.

CONTRIBUTOR No. 8838

Reader Says We're Wrong on Preparation of Latexes

EDITOR TEXTILE INDUSTRIES:

We would like to call your attention to what we feel is an error in the September, 1955, issue of TEXTILE INDUSTRIES. On page 130 [in the article "Hints on Applying Latexes to Decorative Fabrics"—Eds.] it is stated that high speed agitation is necessary in the preparation of latices.*

In our experience, high speed agitation, particularly with the intense turbine type of mixer illustrated, will coagulate practically all latices that are commercially available. Agitation for compounding should be of the slow speed or low shear type.

EARL W. SCOTT
Chemical Division, Coating Dept.
The Goodyear Tire & Rubber Co., Inc.

*The editors have been asked why they seem to prefer "latexes," rather than "latices," for the plural of latex. We admit that Webster does not share our preference (the latest edition of *Webster's New Collegiate Dictionary* gives "latices" as the preferred spelling, "latexes" as the alternate). But he does agree with us on "appendixes," "indexes," and "vortexes." We are doing our bit for standardization.

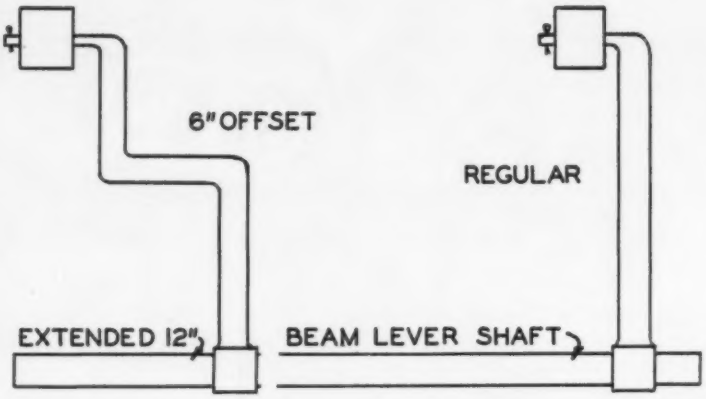
Extended Beam Lever Shaft Solves a Problem in Weaving Narrow Warps on Wide Looms

EDITOR TEXTILE INDUSTRIES:

We make considerable quantities of 28-inch and 37-inch width fabrics on our 50-inch looms, by having our beam barrels threaded toward the center on both sides.

On 50-inch looms, when the beam heads are run in to their farthest point, the beam lever will in most cases rub on the flange or won't go down.

To overcome this difficulty, we extended the beam lever shaft, to which the beam lever is set-screwed, another 12 inches; and also put a 6-inch offset in the arm itself (see accompanying sketch).



This makes it possible to switch from a 28-inch warp to a 50-inch width with no more trouble with the let-off than to move the beam lever back and forth on the shaft. We have equipped 20 of our looms this way, and have saved a great deal of time and trouble when changing from narrow to wide widths, and vice versa.

CONTRIBUTOR No. 8749

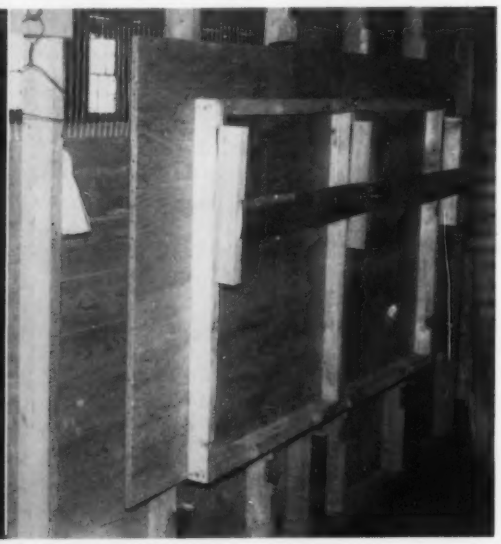
Folding Table Holds Cloth When Inspectors Get Behind

EDITOR TEXTILE INDUSTRIES:

Here is a kink we developed in our inspecting department. Every so often we get an order on a fabric which comes off the looms very fast, and for a period of a few weeks cloth piles up ahead of the inspectors.

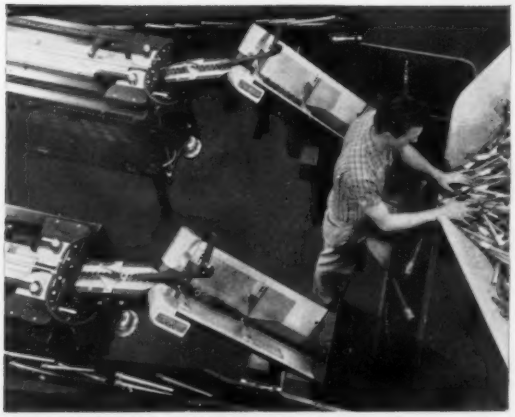
To make a place to pile this extra cloth we built a folding table which, when not in use, can

(Continued on page 169)



Terrell

REVOLUTIONARY
Labor Saving Device
Slices your Bobbin Cleaning costs

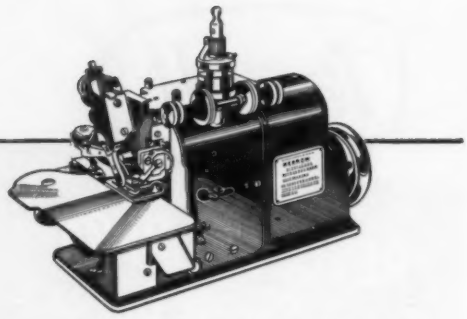


NEW TERMACO
SEMI-AUTOMATIC
BOBBIN FEEDERS

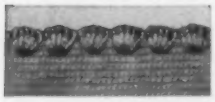
- Enable *one* operator to run *two* machines *without any loss in production.*
- Savings on average installations pay for feeders well within a year.
- For use on Type L — serial No. 400 and above — and all Type K Machines.
- Request complete detailed information from

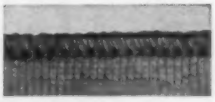
The TERRELL MACHINE COMPANY, Inc., 3000 South Boulevard, P. O. Box 928, Charlotte, N. C.

MERROW MACHINES
FOR HIGH PRODUCTION



- OVEREDGING
- OVERSEAMING
- HEMMING
- SERGING
- SHELL STITCHING
- BUTT SEAMING
- CROCHET STITCHING
- SHIRRING WITH OVERSEAMING





We will be glad to demonstrate the work of these machines on your own material.

"MERROWS" are extensively used in the manufacture of:

LADIES' SLIPS	INFANTS' WEAR	WORK GLOVES
PANTIES AND BRIEFS	WASH CLOTHS	CHILDREN'S CLOTHES
CORSETS AND GIRDLES	HANDKERCHIEFS	TROUSERS
ELASTIC KNIT ARTICLES	PILLOW CASES	LADIES' HOSE
SWEATERS	BATHING SUITS	SKI OR LOAFER SOCKS
ATHLETIC SHIRTS	BLANKETS	ANKLETS—ATTACHING TOPS
POLO SHIRTS	SILVER CASES	LAUNDRY AND FRUIT BAGS
PAJAMAS	AND NOVELTIES	PIECE GOODS

TRADE MARK REG

The **MERROW** MACHINE COMPANY

ESTABLISHED 1838 INCORPORATED 1896

2805 LAUREL STREET•HARTFORD•CONN.

We'll be glad to help you
'TEND TO YOUR KNITTING!

You'll welcome the practical help you get from the pages of TEXTILE INDUSTRIES in the months ahead, if you enter your subscription now.

Year in and year out, TEXTILE INDUSTRIES gives you facts and figures you can use to help you operate more efficiently. TEXTILE INDUSTRIES' editors recognize the inter-related interest of all textile men in subjects where common problems exist . . . labor relations, purchasing, new fibers, spinning, dyeing, bleaching and finishing . . . to name just a few.

Look through the pages of this issue and see for yourself what a world of useable data you can gather for immediate practical use, then, fill in the coupon and make sure you will continue to receive TEXTILE INDUSTRIES for the next two years —the investment is low and the return is high!

Please enter / renew my subscription to TEXTILE INDUSTRIES for two years.

Name _____ Title _____

Address _____

City _____ State _____

Company Name _____

☐ Enclosed find $3.00 ☐ Bill me for $3.00

TEXTILE INDUSTRIES

a W. R. C. SMITH PUBLICATION

806 Peachtree St., N.E.

Atlanta 8, Georgia

(Continued from page 166)

be folded back against the wall, leaving the floor space free.

Dimensions are: length 97", width 48", thickness ¾".

Materials:

- 6 pcs. of 16" x 2¾" x 1¼" wood for legs.
- 1 pc. of 94" x 4" x ½" for front brace.
- 22 ft. of 2¾" x 1¼" wood for bottom frame.
- 6 - 5" hinges.

The table is hinged to the wall with three hinges, and the legs are hinged on so that when table is swung down, the legs swing out into place.

Two steel hooks 8" long, bent in the shape of an "L" and made from 1" x 3/16" flat stock, are screwed in top of scantling and hold the table up when it is not in use.

It has proved a very handy addition to our inspecting department. When we need extra table space it is there: when we don't need it, it is out of the way.

CONTRIBUTOR No. 8731

HOW OTHER MEN MANAGE

Converted Slubber Twists Knotless High-Ply Yarn

EDITOR TEXTILE INDUSTRIES:

Many decorative fabrics such as bedspreads, dress goods, upholstery and drapery, etc., make use of high-ply yarn for cords or stripe effects in the warp. This yarn is usually placed on a separate loom beam from that used as the body warp.

These high-ply yarns may be as heavy as 10s/4, 8s/8, or even heavier yarn in still higher plies. They must be completely free from knots, and if made on an ordinary ring twister the length of each warp will be limited by the amount of yarn that can be put on the ring twister bobbin.

The amount of yarn that can be placed on even the largest diameter of ring twister is comparatively small, and this results in short loom beams of the high-ply decorative yarn. This is a limiting factor that means quite high costs of warping and weaving.

To overcome this, our mill converted an ordinary 12 x 6 slubber into a twister for high-ply yarns. This was accomplished by mounting a standard ring-twister creel on the back of the slubber, removing the drafting rolls, and using appropriate twist and front roll gears. This converted the slubber into a twister, and as the capacity of this machine is about 46 ounces of yarn per bobbin, very much longer warps can be made without knots or piecing-up.

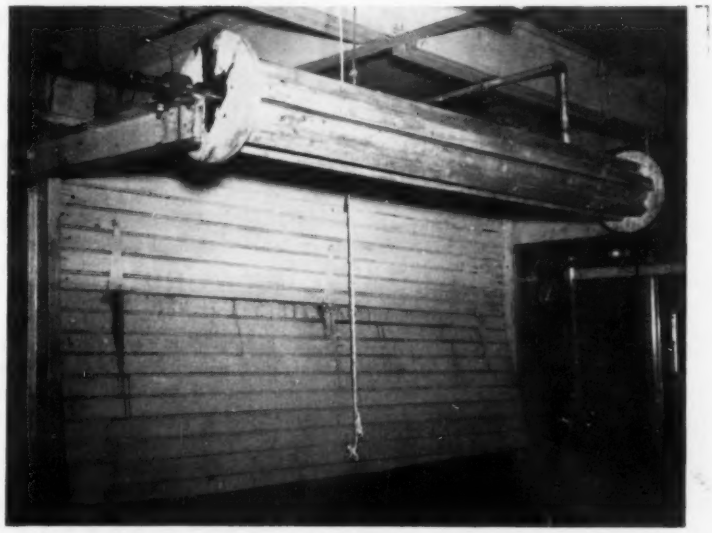
The same care in operating this converted slubber must be exercised as when running a ring twister, to avoid one or more ends breaking and making less than the standard ply. In this case the machine should be immediately stopped off, the short end pulled from the bobbin until the correct ply is reached, and then spliced and glued, not tied in a knot, so as to retain the knotless feature of the yarn.

The difference in the amount of yarn on a slubber bobbin as compared to a ring twister bobbin, and the resulting longer knotless warps, will make this simple and inexpensive conversion of the slubber well worthwhile. The high-ply yarns produced will be in every way equal to ring twister yarn for the decorative effects desired.

If so required, this knotless yarn can also be wound on filling bobbins and used for filling effects on a box loom as well as for warps.

CONTRIBUTOR No. 8833

Loom Beam Makes an Expense-Saving Unloading Roll for Dye Beck



An old loom beam was used by J. A. Humphrey & Sons Ltd., Moncton, New Brunswick, Canada, as the basic part of this mill-made unloading roll for dye becks.

Considerable cost saving in parts was realized by nailing slats across the beam for traction, and wooden disks to its ends for unloading dyed woolen goods.—*Staff.*

The full-fashioned hosiery industry produced approximately the same number of stockings in 1954 as in 1953 . . . with 10% fewer machines. Textile Machine Works 1954 Statistical Survey

In the hosiery industry, the one unyielding force is obsolescence. Compare the production of your least efficient machinery with a "Reading 100" Full-Fashioned Knitting Machine—in courses per minute, dozens per hour, salability of fabric. With every Reading Machine you get the benefit of Textile Machine Works' engineering help, service and technical experience. Write us.

TEXTILE MACHINE WORKS, READING, PENNA.

The "READING 100"
Full Fashioned Knitting Machine

30 Sections 51, 60, 66, 75 Gauge

Knitting Section

Lick Tension Variation in Nylon Tricot

IN THIS SECTION

Lick Tension Variation in Nylon Tricot 171

Preventive Maintenance and Experienced Knitters Are Keynotes for Good Work on Single Unit F-F Machines 178

Hosiery Men Discuss Impact of $1 Minimum Wage Law 179

Knitter Hints No. 42 for Evenly Dyed Stockings.....181

ALSO OF INTEREST

Ultrasonics in the Textile Industry 107

Suggestions for Dyeing of Acrilan-Wool Blends.....120

How to Use Ultraviolet Light 137

How Other Men Manage 157-169

New Equipment Parade 183-197

STAFF PREPARED
EXCLUSIVE

WARPING 15-denier nylon for tricot knitting at Blue Ridge Textile Co., Bangor, Pa., has been adapted to the sensitivity of such fabrics to tension variations by equipping six creels and warpers with compensator-type tension devices and stop motions.* These units are designed to control and and eliminate tension variations and other sources of beam (bobbin) irregularity originating with yarn putup, traditional disk tensioning attachments, sagging of stopped warp sheets, and location of stop motions at the creel front.

In addition, there is installed on one creel an annunciator system which is used as an aid to rapid location of ends down or faulty supply packages, and which works in conjunction with the stop motion.

Tricot Warping Problems. The job of preparing a smooth, level beam of uniform diameter and density to allow for high speed and quality knitting is dependent firstly on maintaining the lowest *even* tension on every end in the creel.

Tests on 15-denier monofilament nylon have shown that a back-drag variation of from two to six grams from the pirn is common. This is added to by the 90-degree bend of the moving strand; in a good many cases the tension created by simply taking the yarn off the package at high speeds and going around a 90-degree bend at the tension device exceeds the desired tension, without adding that supplied by the tensioning device.

These conditions indicate that there are two prerequisites in obtaining uniform tensions:

1. Preset tensions must not be less than the maximum tension on the yarn as it enters the tensioning device.
2. The tensioning device used must compensate for variations in this "entering" tension.

In terms of a knitting operation, end-to-end variations in tensions, particularly very tight ends which dig down into neighboring ends on the beam, causing ridges, can result in section marks, warp streaks, loose ends, and pin holes in the knitted fabric.

Another requirement in the production of a good tricot beam is holding *constant* tension on all ends in the creel, regardless of speed. It is advantageous to have the warp sheet remain taut when the warper has stopped; this allows for locating broken ends more quickly with a minimum of cross-overs, prevents double ends due to static-prone upthrown yarns, eliminates tangles in the warp sheet due to strong air currents, and fa-

*Manufactured by Walter Kidde & Co., Inc., Belleville 9, N. J.

Haystack? No indeed! Smart buyers *know* the dependable way to find top-quality needles for felting, knitting, tufting or sewing is by calling . . . **THE TORRINGTON COMPANY.**

Torrington, Conn., U. S. A. Branches in New York, Philadelphia, Boston, Chicago, Greensboro, St. Louis. Pacific Coast Representative: E. G. Paules, Los Angeles

cilitates taping-up of the full tricot beam.

One of the most serious problems in high speed warping is the necessity for having the beamer stop as quickly as possible after a break or run-out has occurred.

Most existing stop motions are mounted on the front of the creel. With this type of set-up the way to shorten the interval from the moment the stop signal is activated to the time the beamer completely stops is to increase the tightness of the brake band on the warper, thereby bringing down the number of inertia revolutions to an absolute minimum after the stop signal. However, if the beamer stops too suddenly, inertia tends to keep the presser roll rotating, causing it to lag behind the beam in its ability to stop, and yarns become scuffed.

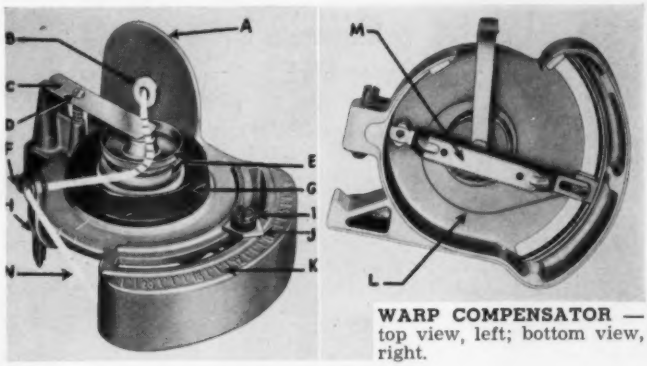
Hanging-type stop motions, such as drop wires, can, depending on speed, add to the tension on yarns being warped by as much as three grams.

Final requirement to high speed tricot warping is some means of quickly locating an end down in the creel. *(Continued p. 175)*

How the Warp Compensator Works

The warp compensator works on the principle of compensating a preset maximum tension on the yarn through mechanical leverage on the output side of the instrument.

A. Balloon Shield
B. Guide Eye
C. Top Pressure Spring
D. Top Pressure Adjustment Screw
E. Disks
F. Set Screw
G. Bakelite Dial
H. Control Arm
I. Tension Setting Screw
J. Tension Setting Indicator
K. Graduated Scale (Grams)
L. Spiral Spring
M. Cam Lever
N. Yarn Path



WARP COMPENSATOR — top view, left; bottom view, right.

Yarn (N) passes between two hard chrome plated disks (E) on which a spring load is imposed by the top pressure spring (C). The control arm (H) then relieves the disk pressure, being applied to the yarn until it produces a tension equal to the force being exerted on the control arm by a spiral spring (L) which has been set at the desired tension.

As tension variables occur on the input side, the control arm is activated and, working in conjunction with the disks, constantly varies the pressure which the disks are applying to the moving yarn so that the output tension remains unchanged.

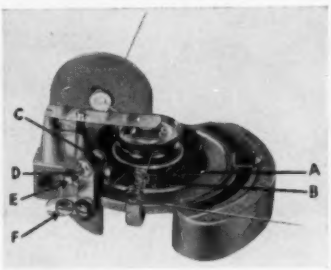
Changes in yarn coefficient of friction and the speed of the yarn do not have a bearing on output tension. Supply package back-drag can be compensated for up to 50% of the tension setting; when stopped, yarn in the device holds 80% of its preset tension, enough to keep it taut.

How the Warp Compensator Stop Motion Works

By including a stop motion that works in conjunction with the warp compensator, the sensing element has been placed at the supply package rather than at the front of the creel. This is designed to save the time required to stop the warper between the break and the time it is sensed at the front of the creel.

Another function of the stop motion is to monitor the output of the compensator for trouble other than breaks; the warper will stop if a loose end passes through the sensing unit.

A. Contact Finger
B. Wear Ring
C. Silver Contact Points
D. Adjusting Screw



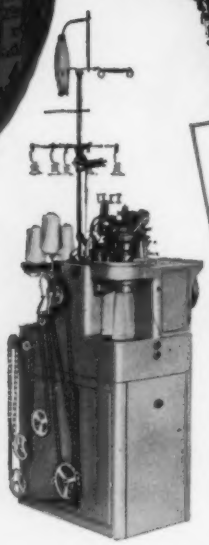
E. Counterweight
F. Wire Connector

The yarn passes from the compensator disks through the wear ring (B) and then through the Al-SiMag guide of the compensator arm. Under normal operating conditions, the tension in the yarn between the disks and the compensator arm holds down the contact finger (A), thereby keeping the circuit open.

Should a break in the yarn occur, the contact finger can no longer be held down by the yarn strand, and the counterweight (E) causes the contact finger to rise, thereby completing the circuit through the silver contacts (C) and signaling the relay to stop the beamer.

The contact finger and wear ring do not add any tension to the yarn; they are placed in a position to touch the yarn before it hits the control arm which compensates for tension variations.

PROOF OF PERFORMANCE



NEW FIDELITY "400"
KNITS PLAIN, MESH OR
S - T - R - E - T - C - H
AT THE PUSH OF A BUTTON!

Press notices and feature articles have spread the news of the amazing Fidelity 400 throughout the hosiery industry. Put them all together they spell proof positive...the electronically controlled Fidelity 400 sets new highs in seam-free hosiery production standards.

For proof of production quality write today for stocking samples. Or visit our showroom and see the new Fidelity 400 in action!

Designers and Builders of Intricate, Automatic Precision Machines

SINCE 1911

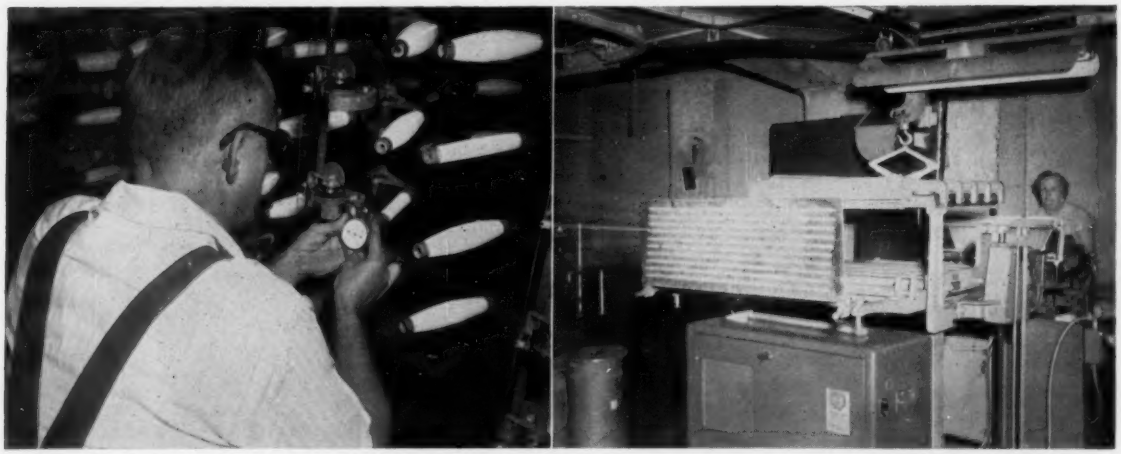
FIDELITY MACHINE COMPANY, INC.

3908 - 18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

EXPORT DEPT.: 25 BEAVER STREET, NEW YORK 4, N. Y.

SOUTHERN SALES OFFICE: 607 PROVIDENT BUILDING, CHATTANOOGA, TENNESSEE

CREEL WITH FULL PIRN LOAD of about 600 packages (left). Control in warping at this mill is dependent on compensator, compensator stop motion, and annunciator system, and includes maintenance of an even, preset tension from package to package and from beginning to end of each package. Right: Annunciator lamp (arrow) guides operator to riser that contains broken end.



TENSION CHECK at midpoint of creel (left) indicates a uniform tension of 6½ grams. Right: Tension check at the eyelet board showed a steady reading of less than 7½, a difference between back and front of creel amounting to less than one gram.

(Continued from page 173)

The Compensator and Stop Motion. To overcome these traditional warping difficulties, Blue Ridge fitted the controls to six of its twelve creels and warpers; these six units are reserved for warp constructions that are most sensitive to tension variations.

Creels usually run about 600 ends, and tricot bobbins are loaded with about 25,000 yards of the 15 denier; bobbins are 21 in. x 21 in. To date the Kidde controls have not been used when warping

NEW TWISTS in stretch yarn processing

Universal provides a complete service— including special machinery, easy financing, expert technical aid and market information

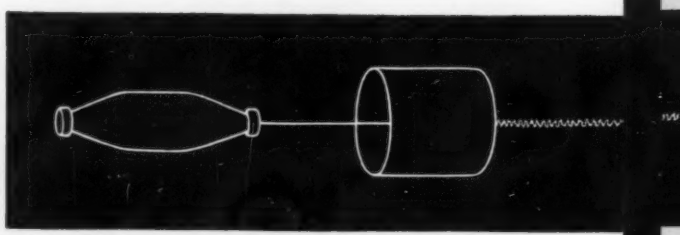
Universal has developed a comprehensive service for stretch yarn production that covers every factor from pirn to finished product. Here are the highlights:

Special Machines — In line with its long established leadership in the manufacture and development of textile machinery, Universal was first to go "all out" to meet the industry's needs for new type machines to process the new "magic" yarns. As a result of this pioneering, Universal is the recognized headquarters for machines especially developed to handle all the popular new bulk and stretch yarns. These machines have thoroughly proved themselves in production. Today they are on the job, operating smoothly and successfully.

Practical Financing — In recent years Universal's Pay-As-You-Profit Plans have been enabling mills to acquire up-to-the-minute textile machinery, without jeopardizing their cash, capital position or borrowing power. Applied to the new Universal machines for processing stretch and bulk yarn, these popular plans provide for long-term purchase or long-term lease.

Plus...

The Universal Yarn Evaluation Department — Universal realizes that its obligations do not end with supplying and financing new machinery. Equally important in the stretch yarn field is a knowledge of how to process the new yarns to obtain the fabric results desired, and how to gauge their marketing possibilities.



For this purpose the Universal Yarn Evaluation Department has been established. Important goals of the new Department include:

Setting up standards for producing and testing stretch yarns; providing samples to mills, recommending test procedures, and appraising samples submitted by mills; thorough investigations of possible trends, needs and end uses.

For further facts, see your Universal Representative or write direct.

UNIVERSAL WINDING COMPANY

P. O. BOX 1605, PROVIDENCE 1, R. I.

Sales Offices: Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles

Winding and Twisting Machinery for Natural and Synthetic Yarns

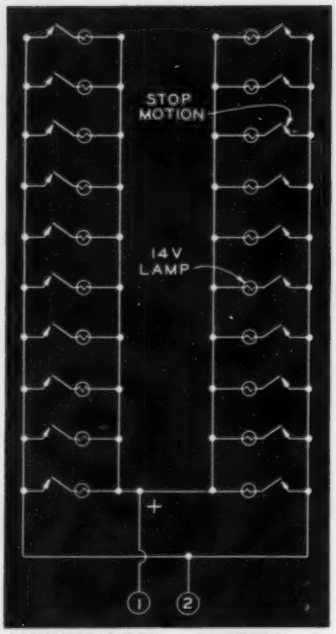
23.5.26

cotton, because the abundance of fly will accumulate in disks and disturb tensions.

The compensator and stop motion are incorporated in one unit and are mounted on the creel risers opposite pirn mounts. Detailed descriptions of these mechanisms are given in the accompanying box [on page 173].

For the 15-denier work, the tension setting indicator on each compensator in the creel is set at six grams on the graduated scale. This conforms to Kidde's plan to maintain constant output tension provided tension settings are in accordance with input variations. Such settings should be no lower than twice the highest average back-drag which can be expected through the complete unwinding cycle of the supply package.

No spool damage has been found at Blue Ridge through maintenance of tensions at this level. Tension checks made at various points along the creel from back to the eyelet board of the creel showed a variation of less than one gram, with the difference being a slight increase in the forward areas.



ANNUNCIATOR SYSTEM is shown in schematic view of top of creel.

The Annunciator System. This system consists of a control box, miniature lamp bases, lamps, and bell wire which is included in a circuit independent of that of the warper.

The miniature lamps, which can be mounted either at the base of the creel risers or overhead on a strip of wood, are installed at Blue Ridge at the creel riser base. The creel control box houses a small transformer, sensitive relay, and an all-clear light. The transformer is energized from a 115-volt source and in turn energizes the creel circuit.

If the stop motion is activated by a broken or loose end, the creel circuit is closed, causing the lamp on that particular riser to light and also to energize the creel sensitive relay. This in turn closes the circuit to the sensitive relay which controls the warper motor, causing the warper to stop.

The all-clear light goes out when this action takes place, indicating that the current is flowing in the creel circuit. The transformer delivers sufficient wattage to cause approximately six lamps to glow brightly enough to locate the broken or loose end.

Preventive Maintenance and Experienced Knitters Are Essentials for Good Work on Single-Unit F-F Machines

STAFF PREPARED
EXCLUSIVE

WILDMAN SINGLE UNIT, single section hosiery machines at Davis Hosiery Corp., Greensboro, N. C., are kept in top operating condition, and menders were cut from about 6 per cent to less than 3 per cent by observing a diligent preventive maintenance program and by keeping experienced knitters on the job.

Carl Wells, superintendent of knitting, stated that every machine is well oiled before closing the mill on Saturday for each week end. This practice prevents machine trouble and helps maintain high quality standards.

Lubrication Essentials. The lubrication schedule at this mill calls for oiling about 75 points on each machine. However, meticulous attention must be paid to oiling (not greasing) the carrying bands, two points for the catch bar, two points for the main shaft, and two points for the spring bar.

The needles are oiled at the time of lubrication of all other parts.

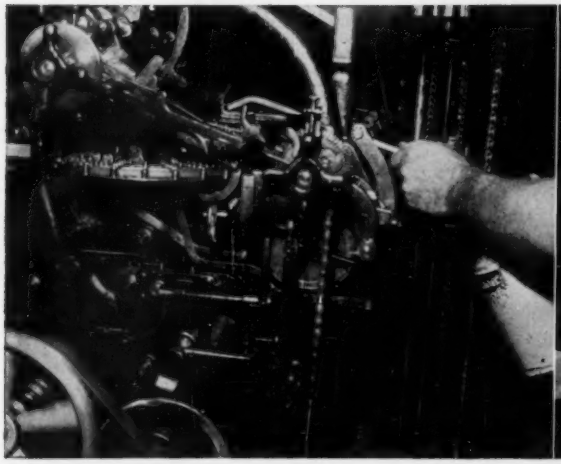
This program is followed religiously, and as a result of preventive maintenance combined with well-trained and experienced knitters, out of 130 dozens produced there are only about two dozen pairs with runs or mender defects. Formerly, there were about six dozen pairs of menders for the same amount of production.

Needle cleaner is applied every eight hours, a set is run, then oil is put in the catch bar for the needles. Sinker heads are blown out once a week with compressed air.

Narrowing pawls are watched carefully and kept clean with ammonia. These parts are cleaned and oiled twice a year or more as a preventive maintenance measure.

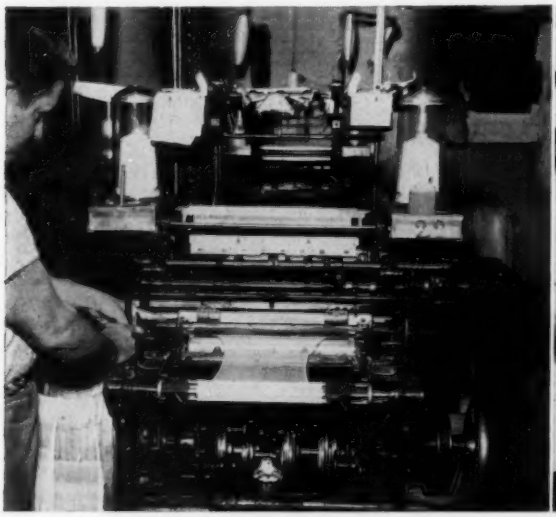
Experienced Knitters. This mill has found that inexperienced operatives make the best knitters when it is necessary to train personnel for these machines. Experience on long section machines is not helpful, according to the superintendent.

Five of the knitters in this plant have had about 12 years of experience on single unit, single section machines. The remainder of the knitters have had from two to

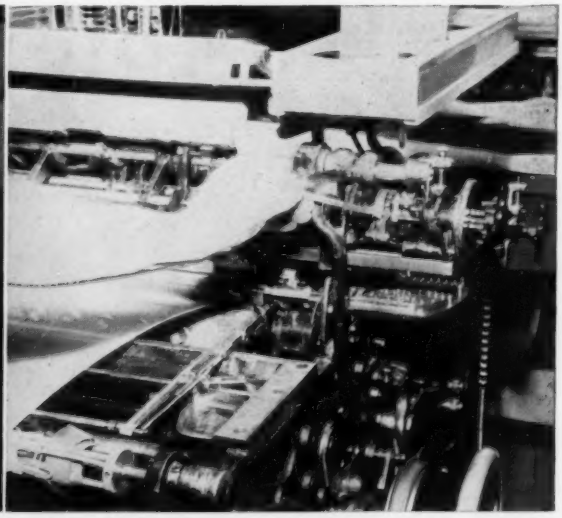


NEEDLE CLEANER IS APPLIED every eight hours, a set is run, then oil is put on the catch bar to lubricate needles.

EACH KNITTER IRONS HIS OWN WORK near the machines. If a bad stocking is found, knitter immediately flags the fixer.



CARRYING BANDS AND CATCH BAR must be lubricated at frequent intervals for smooth, trouble free operation. This mill oils once each week.



NARROWING PAWLS ARE WATCHED CAREFULLY and kept clean with ammonia. These parts are cleaned and oiled regularly to forestall trouble.

five years of experience on these machines.

Each knitter in this plant irons out his own work near the machine. If a bad stocking is found, the knitter immediately flags the fixer and hangs the stocking on the machine. This procedure minimizes the delay in correcting machine difficulties, thereby insuring maximum production of first quality stockings from each machine.

Hosiery Men Discuss Impact of $1 Minimum Wage Law

REPRESENTATIVES of all branches of the hosiery industry met in New York City recently to discuss the impact of the dollar minimum wage law on the manufacturing and merchandising of that product.

The meeting was held under the auspices of the New York Association of Hosiery Mill Salesmen in cooperation with the National Association of Hosiery Manufacturers. The sales group was reported to have sponsored the meeting because its members have been concerned with the increased operating costs made necessary by the law which, in many cases,

threatened the solvency of their principals.

Those present were told that a survey of the entire industry indicated increases in costs amounting to more than $31 million. Most companies indicated that the mandatory increase would exceed their net profits in 1955. These figures were given greater importance from the fact that under existing conditions over 300 companies in the industry liquidated last year.

The meeting was addressed by a panel of experts covering all phases of the industry. Harry Delaney, vice-president of John P. Maguire & Co., Inc., New York, N. Y., reminded the hosiery men that from a banker's standpoint their operating results had been the lowest of all related industries and that corrective action would have had to be taken even if the law did not make such action imperative at this time. He advised all manufacturers, particularly the smaller ones, to seek impartial banking advice concerning their situation in order to avoid over-optimism. Mr. Delaney stated bluntly that companies which could not find a plan for covering these costs should consider taking action to conserve their assets.

Speaking as a large supplier of materials to the industry, J. Burton Frierson, president of Dixie Mercerizing Co., Chattanooga, Tenn., warned the manufacturers that raw material prices, like hosiery, could not remain stable in view of increased costs. He also cited the experience of various industries to show that it would be impossible to cover these increased costs by cheapening the product. "An attempt to preserve arbitrary price brackets by using shoddy material and inferior manufacturing procedure would certainly prove ruinous to those attempting it," Mr. Frierson said.

Introducing a hopeful note, John Shea, vice-president of Lassiter Corp., New York, N. Y., told the group that the problem of price increases could be solved through the procedure of making the product itself more attractive to the customer through packaging and merchandising.

W. F. Williamson, president of NAHM, presented the results of a national survey among all hosiery manufacturers designed to illustrate the extra costs which would become inevitable on the effective date of the law.

Mr. Williamson pointed out that the hosiery industry had not opposed the law and was not opposing it now but considered the survival of individual manufacturers as important to labor as arbitrarily established schedules. He also said that the industry was in an excellent technical position to make the adjustment if it had the capacity to do so. This, because of the fact that inventories now in the hands of manufacturers and retailers were at an unusually low level.

J. Lee Bausher, president of Infants Socks, Inc., Reading, Pa.; A. D. Crenshaw, executive vice-president, Magnet Mills, Inc., Clinton, Tenn.; and Nathan Ayers, president, Triangle Hosiery Company, High Point, N. C., then discussed the specific impact of the law in the manufacture of infants' and children's socks, women's hosiery, and men's socks, respectively.

Mr. Bausher pointed out that the effect of the law on various types of hosiery produced in his field varied widely, due to the amount of labor involved, but that all styles would be affected. He said manufacturers in that field must find a way to cover the increases and suggested the development of new lines which could be sold at profitable levels. Mr. Bausher warned, however, that in view of definite cost increases an attempt to maintain existing brackets would mean placing on the market large quantities of very inferior socks.

By way of illustration Mr. Bausher said that if the cost of an item had gone up 25¢ a dozen and the manufacturer offered it at the same price, a buyer could be sure that 35¢ a dozen in value had been taken out of the product.

Mr. Crenshaw emphasized the fact that women's full-fashioned hosiery was now selling for less than was the case in 1950 and that no absorption of cost increases was therefore possible. He expressed the belief that many mills have failed to realize the full import of the dollar minimum and the inevitability of substantial increases in manufacturing costs.

Mr. Crenshaw warned that the new costs were not only mandatory but of such nature as to make financial management extremely difficult. He urged hosiery men to include in their calculations the effect of this law on fringe benefits which now constitute an important part of total payroll costs and, also, to give weight to the fact that the cost of training learners had been considerably increased. The fact that business fatality in the full-fashioned field had been heavier than in any other branch under the old law and that the situation might be expected to become worse unless adequate action was taken, was pointed out by Mr. Crenshaw.

Mr. Ayers highlighted the progressive influence of increased costs from the manufacturer through selling to the retailer. He stated the proposition that failure to recover costs might result principally from excessive regard for current price brackets.

In showing that such arbitrary retail pricing was not inevitable, Mr. Ayers pointed out that minimum wages since 1938 had been increased from 25¢ to 40¢, to 75¢ and that inevitably minimum brackets had been adjusted to take care of the increased costs. He reminded that this had been done without affecting sales volume.

Mr. Ayers said that similar changes in existing price brackets were unavoidable, the only question being as to whether they could be adjusted before the industry suffered serious losses. He said surviving manufacturers would have to price their products on a realistic basis, giving weight to costs and profit rather than pricing them to meet arbitrarily established price ranges.

Mr. Ayers also urged manufacturers to take particular care in checking reported competitive prices because the next few months would undoubtedly see a very chaotic and confused pricing condition. He further urged manufacturers to think particularly of quoted prices as they were related to manufacturers in their particular marketing sphere.

Knitter Hints No. 42

TO OBTAIN more uniformly dyed stockings, follow procedure pictured here:

1 (above). Fold stockings double after boarding . . . . . .

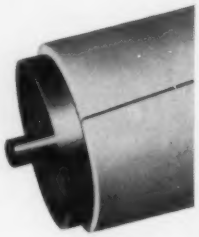
2 (left). Fold them again before placing in dye bag . . . . . .

3 (below). Then put them into the bag.

. . . rely on Tyer for rubber covered rolls

Tyer develops, compounds and manufactures rolls for a variety of applications in many industries, including the typical ones listed above.

These special and standard rolls are made from natural rubber, Buna-S, neoprene, Buna-N (Hycar) or Compar. They vary in size from tiny rolls, that weigh just a few ounces, to giant rolls weighing as much as 20 tons. Many of them have specially-ground surfaces, such as worms or grooves.



Take advantage of Tyer's nearby facilities. Our experience, research, modern equipment and methods ensure superior quality rolls made to your specifications. Send coupon for Free Catalog.

Our 100th Anniversary

Tyer

Rubber Company

ANDOVER, MASS., U. S. A.

TYER RUBBER COMPANY DEPT. TI
Andover, Massachusetts

Gentlemen:

☐ Please send me a free copy of your catalog on Tyer Rubber Covered Rolls.

☐ Please have Tyer Sales Engineer call on _____ (date)

NAME _____

TITLE _____

FIRM _____

STREET _____

CITY _____ ZONE _____ STATE _____

For EFFICIENCY and DURABILITY

Gastonia

PRECISION-BUILT PARTS

Get BETTER OPERATION and LONGER SERVICE with

Gastonia

Card Screens

GASTONIA standard type rib or perforated Card Screens are cut and assembled on specially designed precision-built jigs.

Maximum operating efficiency and utmost durability of these Card Screens is assured by thorough checks at various stages of manufacture. Scientific final inspection guarantees setting points within standard tolerance.

GASTONIA Card Screens, like all other GASTONIA Products, are precision-built from the finest materials by highly skilled workmen having many years of practical experience.

Gastonia TEXTILE SHEET METAL WORKS, INC.
Gastonia, North Carolina

A sheet metal works serving textile mills

CYLINDERS
Dynamically balanced for better performance—reduce vibration to an absolute minimum.

SCREENS
Picker, Condenser and Waste Machine Screens of maximum strength and durability.

ASPIRATORS
Precision manufacturing methods assure proper shape and balance of Aspirators and Aspirator Dampers.

LAP CONDUCTOR TINS
WASTE CHUTE COVERS
WASTE CHUTES
SLIVER PANS
BACK TINS

COMBER RENEEDLING
Top Combs, Half Laps and Winder Guide Combs precision-rebuilt of top quality materials to manufacturer's standard specifications. Imported English needles of tempered high-tensile steel used exclusively.

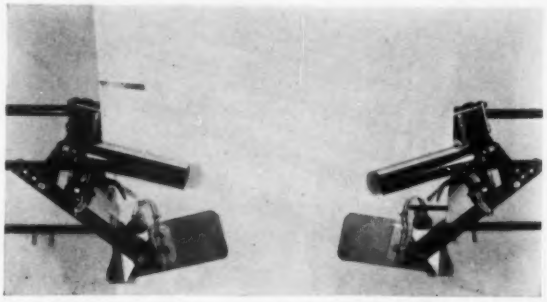
NEW EQUIPMENT PARADE

Machines and Equipment . . . Supplies and Services . . . Dyes and Chemicals . . . Books

Automatic Clip Collector Reduces Seconds in Finishing Plants

The small metal clips which are made of band steel and attached to the selvages of goods being finished to invite the attention of operatives at subsequent processes to some defect, mark, etc., at that particular place in the fabric can now be automatically removed before they go through certain machines and cause trouble.

Called a "Clip Collector," the device for removing these metal clips is usually fastened to a guider but may be



placed at any other convenient location. It is recommended that the apparatus be used before a peroxide steamer to prevent formation of rust spots and rust holes, in front of dyeing machines to prevent undyed spots under the clips when going through the dye pad, before hot air frames to prevent nicked places in the selvages, and before compressive shrinking machines where the clips might stick to the blankets or latch in the shoes.

The device itself is very simple. A powerful magnet incorporated in the unit pulls an approaching clip toward a stainless steel plate. The force of the magnet opens the clip slightly at the end, and the cloth carries the partly opened clip down the edge of the plate which is inclined at the outside edge. At the bottom of the plate the clip is pulled entirely free of the selvage and drops into a box.

Guider, Roll and Service Co., P. O. Box 3747, Daytona Beach, Fla.

Do you want more data? Write ◂ or use card on page 199; list C-101

Way to Get Better Card Sliver from 1½"-2" Synthetic Staple

Mills using standard Saco-Lowell or Saco-Pettee cotton cards for the processing of medium-length synthetic fibers will obtain better quality webs and sliver if long nose feed plates and solid licker-in screens are installed as replacements for the standard assembly of 1"-nosed feed plate and the bar type or perforated type of licker-in screen.

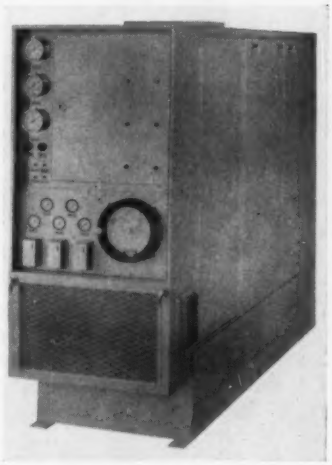
Because of the greater distance which is obtained, by means of the longer-nosed feed plate, between the bite of the feed roll and the bite of the licker-in, synthetic staple from 1½" to 2" long will not be broken nor curled when the new plate and screen assembly has been installed; and any previous tendency toward neppiness in the web will be greatly minimized if the card is set properly.

A saving of shorter but still spinnable fibers will also be made by the increased elimination of unwanted droppings at the licker-in.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

Do you want more data? Write ◂ or use card on page 199; list C-102

Self-Contained Machine Provides Close Control of Temperature and Humidity in Small Labs at Nominal Cost



Available now for use in any laboratory where close control of temperature and humidity is required, is the ACCO Psychronditioner, a machine developed for Pressley and Micronaire labs to meet criterion for cotton testing set down by Dr. Earl E. Berkley of Anderson Clayton & Company, Inc.

The machine provides positive and accurate control of the temperature and relative humidity of air in the testing laboratory, regardless of outside weather conditions. It meets the requirements of close tolerances in operation, as well as low operating and maintenance costs.

The mechanism is contained in a compact housing (69" x 92.5" x 28.5") which is of convenient size for moving and shipping. All that is required to operate the unit is to connect it to water, drain, electricity, and steam (or hot water), and to the ducts for distribution of the conditioned air.

The extreme ruggedness of construction and simplicity of operation, inherent in the design of these units, makes it practical to ship them great distances, and have them put in operation by personnel untrained in air conditioning operation.

While constructed as a self-contained unit, this equipment is not to be confused with the so-called "package unit" type air conditioner. It is rather a "method" of air conditioning adapted for a specific purpose.

Proportioning controls give plus or minus 2% relative

Shamrock No. 19 Trucks with "Vyntex" Plastic-coated Duck Body.

think of
SHAMROCKS
when you want
RUGGED WEAR
...LONG SERVICE!

... Says "MARK-O-MERIT"

Look carefully at any Shamrock's sturdy construction. You'll see why many textile plants report longer years of wear, at low cost, from famous Shamrock products. Shamrocks are used the world over—and an extensive range of styles is designed for textile plant needs . . . for example, the Shamrock No. 19 "Vyntex" Truck shown at top. Also, special Shamrocks will be made-to-order for your particular needs. Contact nearest sales office or write direct. MEESE, INC., Madison, Indiana.

SALES OFFICES: NEW YORK—F. R. Tyroler, 55 West 42nd St., PE 6-0615; ATLANTA—W. E. Petway, 2577 East Densley Dr., North Decatur, Ga., CRescent 7612; WEST COAST—Petersen-Daniels, Inc., 3311 Beverly Blvd., Montebello, Calif., RAymond 3-7003. Export Mgr.,—R. A. Auerbach, Easton, Pa. Cable Address: "Natly".

SHAMROCK
- HAMPERS
- CANVAS BASKETS
- TRUCKS

humidity and plus or minus 2 F. Closer control may be obtained with reset type instruments. Depending on the laboratory needs, the Psychronditioner may be constructed of metal to resist corrosive atmosphere. It may be built to utilize any type of heating energy such as steam, electricity or gas.

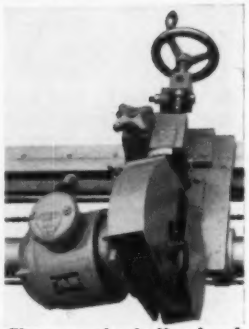
Air Conditioning Industries Co., Houston, Texas.

Do you want more data? Write ◂ or use card on page 199; list C-103

Save Time by Grinding Napper Rolls at the Napper

With the "Rasma" napper roll grinding machine it is possible for one operative to grind a complete set of napper rolls in a period of only five hours, because the necessity for removing the rolls from the napper is eliminated—they remain in place while being ground.

Since this grinding machine is portable, it is easily moved to the napper on which the rolls are to be ground and is then attached to the napper by special brackets so that parallel grinding is assured. Special rubber rolls on the grinder impart motion to the napper roll being ground.



Close-up of grinding head.

Interchangeable grinding and polishing units are provided which make it possible to do face grinding, side grinding, and polishing. A traverse motion moves the grinding head from one end of the napper roll to the other. To facilitate formation of the correct needle point when side grinding, the grinding head is designed so that it can be inclined up to 20 degrees in either direction from the vertical position.

Since each napper roll is individually driven by the grinder, stripping can be efficiently done by means of a hand stripping card before grinding; this feature also aids in detection of driving pulleys and napping rolls that are out of round, broken bearings, etc. Dust exhaustion equipment is available for the grinder; also a special frame which permits use of the machine for grinding workers and strippers of wool card sets.

Magnatex Martin Hauck Textilmaschinen, Postfach 94, Karlsruhe, Germany.

Do you want more data? Write ◂ or use card on page 199; list C-104

Machine Automatically Measures Wool Fiber Fineness in 4 Minutes

When a glass slide bearing parallel wool fibers cut to about 200 micron lengths is inserted in the optical unit of the Electronic Fineness Fiber Indicator and the machine started, the fibers pass in front of a light source until 1,000 fibers have been counted. At that point the machine stops automatically and the average micron measurement is indicated, as well as the distribution by category.

This motion and the counting are accomplished entirely automatically so that while this is being done the operator is able to prepare the succeeding slide for measurement. It takes about four minutes to prepare a slide and about the same length of time to run the fibers in the machine, which is called the EFFI (Electronic Fineness Fiber Indicator).

This machine was developed jointly, after two years of research, by National Research Corp. of Cambridge, Mass., and The Top Co. of Boston, Mass., who are joint owners of Fiber Research Corp., the organization which built the prototype and is scheduled to soon begin production of a limited number of additional machines.

The first unit has been operating on a pilot scale, and a large history of correlation between EFFI and other methods of micron measurement is being amassed. Up to now it has been used only on wool and has been applied to grades from 70s to 50s.

The Top Co., 470 Atlantic Ave., Boston 10, Mass.

Do you want more data? Write ◂ or use card on page 199; list C-105

Scouring and Leveling Agent for One-Bath System of Dyeing Nylon Hosiery

A new scouring and leveling agent combined for the one-bath system of dyeing nylon hosiery has been developed. Called "Unishade" because of the excellence of leg-welt unions, the agent prevents the welt from becoming lighter than the monofilament leg, even under prolonged dyeing conditions.

Uniform shades between the welt and leg and from one stocking to another are produced consistently.

Overdyed shades may be lightened uniformly by the addition of more Unishade to the dyebath. For more extreme action, a new dyebath using the original amount of Unishade will produce an appreciably lighter shade without disturbing the uniformity between welt and leg.

Unishade rinses out readily, carrying suspended soils with it.

Kali Mfg. Co., 427 Moyer St., Philadelphia 25, Pa.

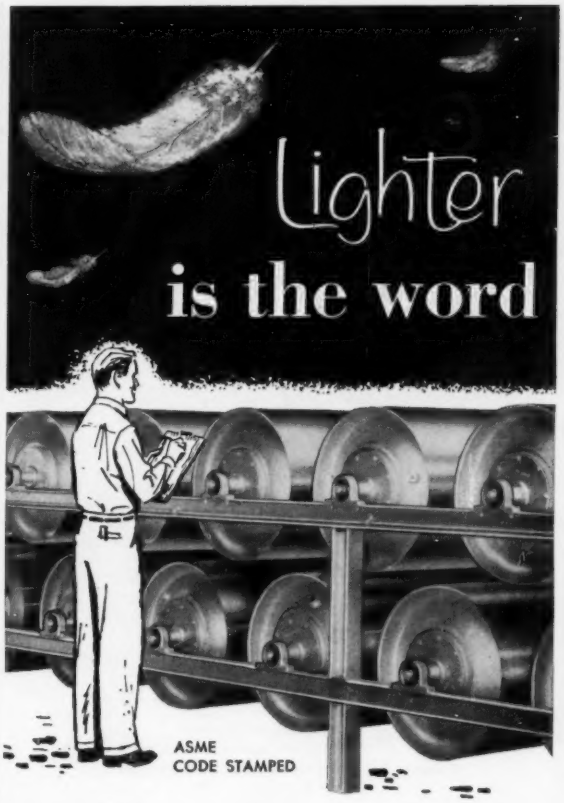
Do you want more data? Write ◂ or use card on page 199; list C-106

Heavy Nylon Yarns for Industrial Uses and Mechanical Goods

Limited production of a completely new class of industrial textile yarns has been announced.

Identified as "Caprolan tensile-tough nylon" heavy yarns, the new materials are being specially packaged for use in industrial applications and mechanical goods where toughness and high impact strength are essential requirements. The yarns will eventually be available in the range of 2000 to 50,000 total denier.

The "Caprolan" heavy yarns have a minimum average standard tenacity of 6.5 grams per denier, and retain 90



There's no point in pulling extra weight in old flat heads, now that the new Sims Stainless Steel 75 psi reverse dished head Dry Cans* are available They aren't featherweights, true . . . but they're *lighter . . . easier on the bearings . . . require much less horsepower and space.* Bearings, drive chains and belts give longer, smoother performance with less costly down time, since the lighter the load, the longer they last. These new Sims Dry Cans give uniform transmission of heat and efficiently eliminate steam condensate. Furnished Teflon-coated if desired.

For ECONOMY and QUALITY

Our modern and progressive metal-working shops, skilled craftsmen and know-how — these are your guarantees of quality. For custom tailoring of stainless steel, call, wire or write now.

Fabricators Since 1928

Sims METAL WORKS

WEST POINT, GEORGIA

*PATENT PENDING

Chronometric Tachometers

Guarantee
ACCURACY
To $\frac{1}{10}$ of 1%

BUILT TO NAVY SPECIFICATIONS, Totco Tachometers measure with *guaranteed* accuracy.

PRECISION MANUFACTURE, EXCLUSIVE DESIGN, STURDY CONSTRUCTION insure trouble-free service, long life. Built-in timing mechanism.

ABSOLUTE GUARANTEE for one year against defects in material and workmanship.

TECHNICAL OIL TOOL CORPORATION
Manufacturers of Precision Instruments
1057 North La Brea Avenue, Los Angeles 38, California

per cent of their strength in the wet state.

Run-in procedures on 5,000- and 15,000-denier heavy yarns have been satisfactorily completed, and high-quality production of these deniers is now in progress. These yarns are being produced on ten-pound parallel packages and contain nominal twist. Limited quantities of 2100 and 2500 denier yarns will be available shortly.

About 50 mills have been participating in the evaluation of "Caprolan" heavy yarns for such end uses as automobile safety belts, hoses, heavy duck, conveyor fabrics, filter fabrics, industrial slings, webbing, tapes, cords, seine twine, belting, and rope.

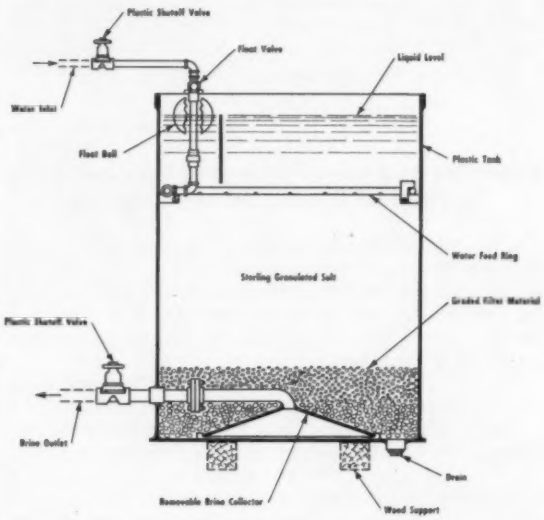
Fiber Sales and Service, National Aniline Div., Allied Chemical & Dye Corp., 261 Madison Ave., New York 16, N. Y.

Do you want more data? Write ◂ or use card on page 199; list C-107

Plastic Salt Dissolvers Eliminate Corrosion Problems

Rock salt and evaporated salt dissolvers, and brine storage tanks, all made of polyester glass-reinforced plastics, can now be supplied to the salt consuming industries.

The plastic units completely eliminate corrosion prob-



lems. They need no paint. Because they are translucent, the true salt level is visible from any position around the units.

International Salt Co., Inc., Scranton, Pa.

Do you want more data? Write ◂ or use card on page 199; list C-108

Live Creel Spindle for Twisters Improves Quality of Product

The Macdonald live creel spindle for twisters operates freely and smoothly enough to permit soft, lightweight, low-twist yarns to be removed radially from large packages with the minimum amount of tension, thereby preserving all of the original uniform twist in the yarn regardless of whether the packages are full or almost empty. This results in production of more even, higher quality yarn.

The spindle has five precision molded nylon parts

which, when assembled, provide both radial and thrust bearings completely sealed against dust and fly. The nylon bearings do not require lubrication, yet they create very little friction.

These spindles can be furnished with different types of mountings and can be made to special dimensions in reasonable quantities.

Macdonald and Sons, Inc., 984 Taunton Ave., Seekonk, Mass.

Do you want more data? Write ◂ or use card on page 199; list C-109

New Yarn Bulking Process

A new bulking or texturizing process produces yarns of exceptional bulk uniformity.

A licensing program is already under way, with agreements being made available on a one per cent royalty rate based on the price of the material to be bulked. Licensees are permitted use of the equipment and are given technical assistance for the royalty of one per cent during the period before a patent is issued or before January 1, 1958, if this date occurs first. After patent is issued, the royalty rate will be determined by the then existing conditions but will not exceed 5 per cent. Details of the licensing agreement will be furnished on request.

The new method offers a uniformity of bulk which can be regulated from package to package as well as within each individual package. With only minor adjustments, a wide variety of bulking effects can be achieved.

The bulking device, which has been engineered into a compact assembly, is easily attachable to any winding or twisting equipment using a uniform yarn take-up.

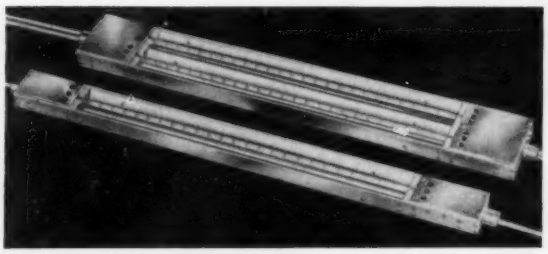
American Enka Corp., 206 Madison Ave., New York, N. Y.

Do you want more data? Write ◂ or use card on page 199; list C-110

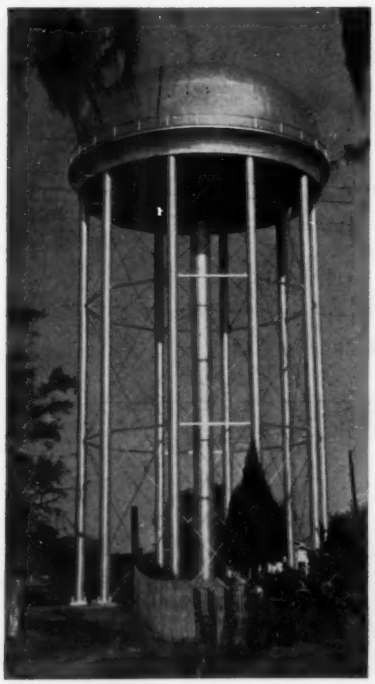
Infrared Dryers Reach Maximum Heat Instantly

A new Doyle infrared dryer incorporates a new General Electric quartz tube heating element so that it comes up to heat instantly when the electricity is turned on. Thus, full drying capacity is effective immediately.

The dryers are ideally suited for treating and conditioning coatings on textiles. They are especially effective with synthetic resins which react favorably under high flash heat, as well as impregnating processes using latexes or impregnating compounds. The units may also be installed over conveyors or as an integral part of other processing equipment.



In addition to reaching maximum heat instantly, the



Established in 1854

Cole engineers have the background of a century of experience in tank design.

FOR ECONOMICAL MAINTENANCE

COLE ELEVATED TANKS

Design plays an important part in tank maintenance. Experienced engineers design COLE tanks for easy access and minimum maintenance costs. as well as for permanence, safety and dependability.

Send us your inquiries for tanks 5,000 to 2,000,000 gallons—stating capacity, height to bottom, and location. Write for latest COLE catalog—*Tank Talk.*

R. D. COLE Manufacturing Co., Newnan, Ga.

- TANKS
- TOWERS
- CYLINDERS
- VESSELS
- STANDPIPES

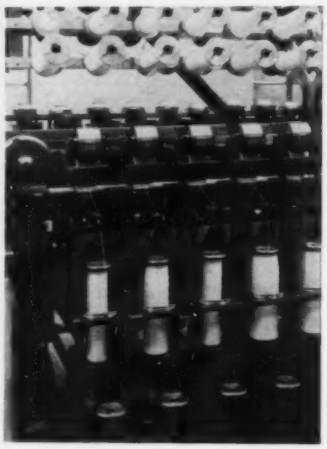
quartz enclosed elements cool off quickly, reducing greatly the fire hazard which otherwise might exist in case fabric should fall against the element.

Multiple automatic heat regulators for control of operating temperatures geared to the speed of the machine, as well as manual controls for various types of work, can be supplied.

J. E. Doyle Co., 1220 West 6th St., Cleveland 13, Ohio.

Do you want more data? Write ◂ or use card on page 199; list C-111

Universal Twister for Nylon Fishnet Yarns



The Prince-Smith & Stells Universal Twisting Frame is being successfully used for doubling and cabling nylon or similar synthetic fiber yarns in two operations, thus eliminating the necessity for assembly winding.

This machine is a heavy ring doubler or twister provided with the individual stop motion for each yarn in the creel. The stop motion acts on the delivery rollers and on the spindle simultaneously. This means that each spindle can be run as an individual unit; and if a supply package runs out, only one spindle will be stopped, while the others are still running and producing. Knots are, therefore, tied in the single yarns, while when using assembly wound packages, much larger knots are necessary.

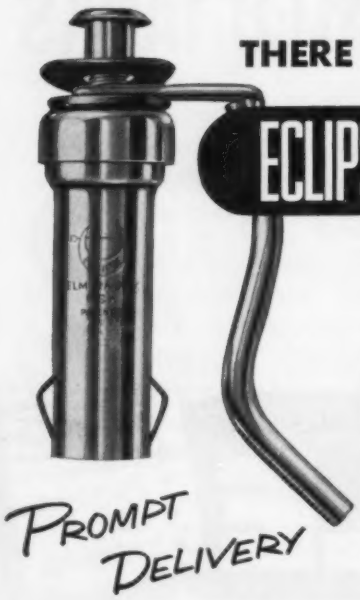
This stop motion type twister will run at an efficiency of 70 to 90%, depending on mill conditions. The operative's work is much easier, as she does not need to watch the machine all the time. Faults in yarn are entirely eliminated, and the waste is reduced to the minimum. The standard machines are as follows:

First Operation: Universal ring twisting frame approximately 7" pitch with self-lubricating rings approximately 4⅜" diameter. The bobbin used is approximately 8" x 4" x 4" and is made of light alloy. The build of the bobbin is parallel as each spindle is operated as an individual unit.

Roller bearing twin clutch spindles are used. There are three lines of delivery rolls placed one above another, and the middle roller is covered with synthetic rubber for better grip of the yarn. The number of ends in the creel varies according to requirements. The yarn coming from the creel is tensioned by individual spring disks. The spindle speed varies from 3700 to 6000 rpm. Spindle speeds can be easily altered by changing a sprocket wheel.

Provision can be made for reverse twist and splitting up of the machine into four sections, each of these producing a yarn with a different twist. Single nylon yarns from 200 to 250 denier are used in the creel of the first operation machine.

Sales doubled in '55



THERE MUST BE A REASON—and there is!

ECLIPSE BOBBIN HOLDERS

ARE THE WORLD'S FINEST

It's no exaggeration. Sales of Eclipse Bobbin Holders really skyrocketed in '55, and they're continuing to rise with every passing month. There is, of course, good reason for this gratifying sales increase. The textile industry has discovered that this bobbin holder—providing light, controlled tension which diminishes with the size of the package—drastically reduces breakbacks. This cuts maintenance requirements with resultant savings in labor costs. There is really no excuse for using old-fashioned, inefficient wooden skewers today. The modern way to spin cloth is with durable, economical Eclipse Bobbin Holders. And our increased plant capacity now assures you of prompt delivery. Better place your order today.

PROMPT DELIVERY

ECLIPSE MACHINE DIVISION ELMIRA NEW YORK

Bendix AVIATION CORPORATION

The Second Operation machine, which takes the bobbins from the first operation, has 8" pitch and uses self-lubricating rings approximately 5½" diameter. The bobbins are approximately 9" x 5" x 3½". An ordinary porcupine creel is used to take bobbins from the first operation which would be unwound from the side. This machine runs at spindle speeds from 2000 to 4000 rpm and in other details resembles the first operation machine.

Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.

Do you want more data? Write ◂ or use card on page 199; list C-112

Durable Anti-Static Finish for Man-Made Textiles

Development of an anti-static treatment for synthetic textiles that is durable both to repeated launderings and to repeated dry cleanings has been announced. The finish is a complex vinyl type of compound, designated "Niatex" antistatic AG-2. It is easy to apply, yet it is difficult to remove from fabrics of Dynel, Orlon, Acrilan, and similar fibers.

No catalyst or high-temperature curing is required. The compound is merely diluted with water and applied to the fabric by padding or spraying, and thoroughly dried. Extensive tests have indicated that excellent protection can be obtained over repeated launderings, depending on the fiber content of the fabric and the method of application.

The finish is described as a viscous, white to light amber liquid. It is shipped as a water solution and can be mixed with water or any of a wide variety of organic solvents and may be of use in applications employing propellants.

The new finish is also compatible with many types of resins, water repellents, stiffening agents, and softeners. The antistatic durability of various combinations of finishing-materials with AG-2 varies somewhat, so tests must be made in specific cases. It is suggested that fabrics used in hazardous locations be rechecked at frequent intervals.

Carbide and Carbon Chemicals Co., Fine Chemicals Div., 30 East 42nd St., New York 17, N. Y.

Do you want more data? Write ◂ or use card on page 199; list C-113

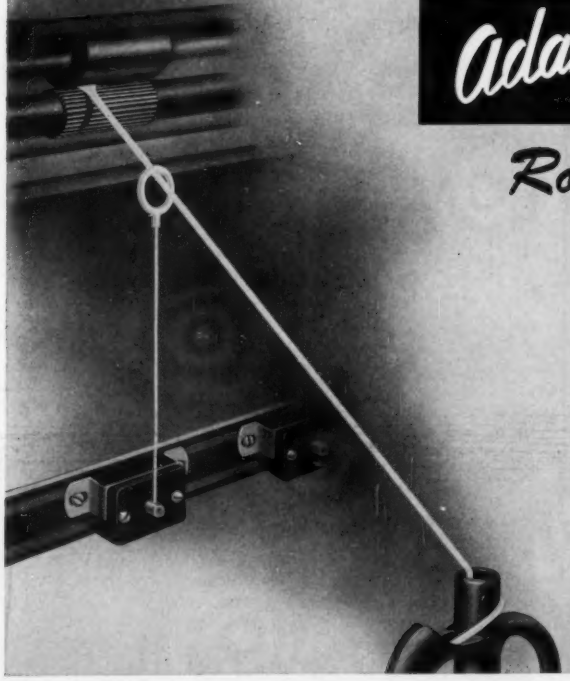
Helical Gears Improve Comber Detaching Motions

Smoother-running detaching rolls and the production of very even slivers with a minimum of variation can be obtained on Saco-Lowell Model 48 and older combers by changing to helical gearing from the Edfors roller motion to the detaching rolls themselves.

The changeover for each side of a Saco-Lowell comber using the recommended 4:1 ratio consists of a 72T helical roller motion gear, a wide 18T helical gear for the back detaching roll shank, a 33T helical carrier gear, and an 18T helical gear for the front detaching roll.

New keys, collars, carrier gear studs, and spacers are provided for fitting the new gear train to older combers with either ⅞"-dia. or 1"-dia. back detaching roll shanks.

The gear-chain conversion is readily made with the aid of a special gear puller and driver which accompany each



Only

Adamstop* gives FULL

Roving Frame Protection

Only ADAMSTOP detects ALL of these Roving Frame Failures:

1. Breaks back of rolls or runouts
2. Breaks or lap-ups at any roll
3. When no material is delivered from front roll
4. End breakage
5. Bobbin runover
6. Plugged flyer
7. Singling
8. *Stops doublings*

Costs less to BUY, less to INSTALL, and less to OPERATE. Write or call for full information today.

*Pat. in U.S.A. & 12 foreign countries.

ADAMS, INC.

4 E. Lewis Plaza, Greenville, S. C.

STOP GUESSING START SAVING!

$55

TIME-RECORDER + TOTALIZER

gives complete production data continuously... automatically

Now get complete, accurate, documented production data on any machine, process, operation. Eliminates costly, inaccurate spot-checks, time studies.

TR+T records on continuous 4-month tape. Uses no ink. No maintenance. Thousands in use in large and small plants.

Chronologically records actual on-and-off time by duration.

Gives absolute time-study data per operation.

Establishes true cost accounting.

Permits supervision of parts replacement, repairs, maintenance.

Gives total operating time of machine, feed or belt-line.

Allows ability to anticipate equipment servicing.

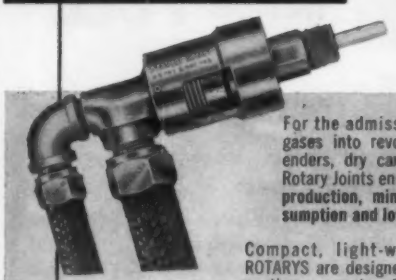
Write for brochure "D" and list of users.

STANDARD INSTRUMENT CORP.
DIVISION OF HEAT-TIMER CORPORATION
657 BROADWAY • NEW YORK 12, N. Y.

...Stop Leakage!.....

use SEAMLEX ROTARY

the Rotary Joint for Steam, Water, Oil, Air, etc.



For the admission of liquids or gases into revolving drums, calenders, dry cans, etc., SEAMLEX Rotary Joints ensure **uninterrupted production, minimum power consumption and lowest maintenance.**

Compact, light-weight SEAMLEX ROTARYS are designed to render long, continuous service, free from leakage.

Seamlex Rotarys are provided with Seamlex Quality Hose.

External Screw Adjustment provides means to compensate for normal wear, without removal of joint from equipment. Floating Graphite Seal prevents excessive wear. Pressure Equalizing Chamber reduces power consumption.

SEAMLEX COMPANY, INC.

Take advantage of SEAMLEX Company's many years of experience in design and manufacturing. Write today for FREE Bulletins 955 & 5500A.

41-23 24th ST., Dept. F
LONG ISLAND CITY 1, N. Y.

● *Since 1928, SEAMLEX Products are QUALITY Products.* ●

shipment. If a mill does not wish to keep these tools, they can be returned to Saco-Lowell for credit after the changeover is made.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

Do you want more data? Write ◂ or use card on page 199; list C-114

Speed Up Fiber Identification with these Fiber Specimens

Authentic specimens of 100 different hairs and fibers (natural, synthetic, and manufactured), mounted on microscope slides, are now available through new Allen Reference Sets for Microscopists. The sets comprise 25 specimens each of (1) commercial fur hairs, (2) other animal hairs, (3) commercial fibers, and (4) synthetic and manufactured fibers.

These serve as standards to be used for microscopic comparison with commercial products to establish the identity of hairs and fibers. They are also useful for quality control, industrial research, litigation, and criminology.

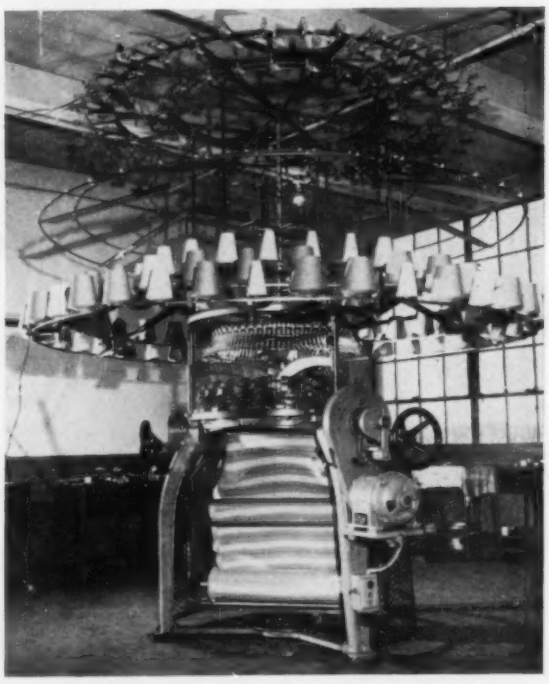
R. P. Cargille Laboratories, Inc., 117 Liberty St., New York 6, N. Y.

Do you want more data? Write ◂ or use card on page 199; list C-115

Machine Knits 28 Yd per Hr of Variable Striped and Patterned Rib Fabrics with or Without Separations

Fancy rib outerwear fabric can be produced at the rate of 28 yards per hour on the new Supreme multi-feed, stationary yarn stand, automatic stripe and pattern rib circular knitting machine which is designated Model SAR-PP.

Four-color striping boxes, three-position pattern



wheels, and automatic tuck controls on each feed are employed to produce automatic variable striped, or solid colored rib fabric with patterned inserts placed as close or as far apart as desired. Automatic tuck controls on dial feeds make possible draw thread separations whenever and wherever they are required. The separations can be placed as far apart as desired for body lengths or as close as required for trimmings. Draw thread is easily removed to produce a uniform selvage edge.

Continuous solid color or continuous striped fabric can be produced by the machine in either plain 1 x 1 or Swiss rib construction.

Supreme Knitting Machine Co., Ozone Park, N. Y.

Do you want more data? Write ◂ or use card on page 199; list C-116

Sewing Machine Attachments for Applying Elastic on Knee-Length Hose

For hosiery knitting mills making ladies' knee-length hose are attachments to fit Merrow, Metropolitan, Willcox & Gibbs, and Singer sewing machines that facilitate application of elastic to them.

The principle of the attachments for the Merrow and Metropolitan machines is practically the same—both have a marking device to govern the length of the elastic. However, the Merrow has an ordinary tension on the attachment and the Metropolitan a metering device. Both sew the elastic on the stocking directly from a roll.

The attachment for the Willcox & Gibbs Super-Lock uses rollers on which the garter is placed and the stocking sews around the rollers. Rollers are also used on the attachment for the Singer 107W50 machine, but the garter is sewn with two rows of zig-zag stitching inside and below the top of a stocking having a 1¼" welt.

William C. Cremer & Son, 903 N. 12th St., Reading, Pa.

Do you want more data? Write ◂ or use card on page 199; list C-117

Equipment Briefs

New AlSiMag alumina **ceramic guides,** which are the hardest and have the longest life of any yet developed, are now in volume production. Composition from which they are made is designated AlSiMag 614.

American Lava Corp., Chattanooga 5, Tenn.

Do you want more data? Write supplier or use card on page 199; list C-224

Flexible pipe insulation wrapping material, called Vycot, is designed to cover heat insulation and to protect it from deterioration by weathering, sunlight, moisture, and chemical action. Vycot is fabricated with a heavy weight cotton cloth that has been heat fused with a chemically resistant resin which includes specially selected resin pigments.

Industrial Laminates Div., Fabric Distributing Co., 54 Franklin St., New York 13, N. Y.

Do you want more data? Write supplier or use card on page 199; list C-225

National Carbanthrene Navy Blue G Double Paste is a **new anthraquinone vat dye** producing on cotton and rayon greenish-navy blue shades. It is unaffected by the presence of metals in the dyebath, suitable for use in all types of dyeing equipment, and may also be applied by

New Bahnson Collecto-Vac increases production efficiency at Aleo Manufacturing Company

Bahnson Collecto-Vac installed on frames in Spinning Room at Aleo Manufacturing Co., Rockingham, N.C.

New automatic broken-end collection unit

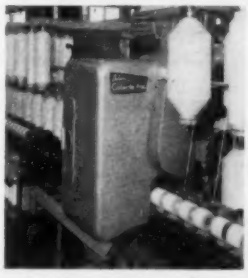
- helps increase spinner efficiency
- improves product quality
- simplifies plant maintenance

Here are important features of the Bahnson Collecto-Vac which make it outstanding for economy and dependable performance:

ANODIZED ALUMINUM FLUTES eliminate flute warpage and minimize static build-up.

HIGH SUCTION EFFICIENCY–Specially engineered main duct distributes maximum pressure throughout system utilizing Bahnson-designed fan for high air handling effectiveness.

ECONOMICAL OPERATING COST–Bahnson designed fan requires less power to maintain even vacuum pressure, and the special construction of the airtight duct and flute connecting tubes makes for more efficient performance.



Left: Double Collecto-Vac collection box serving two frames.

Bahnson COMPANY
WINSTON-SALEM, N. C.

WRITE US TODAY for detailed information on the new Bahnson Collecto-Vac

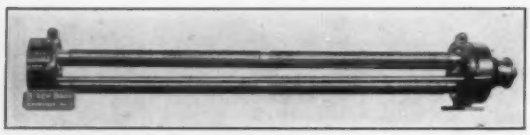
AIR CONDITIONING • CLEANING • VACUUM COLLECTION

In a Stew Over Snagging Problems?

Hard, non-porous, highly polished laminated plastic parts by EPI have solved many snagging problems. Let EPI's engineering staff solve yours.

New England Representative:
J. H. Windle, Jr., 231 S. Main Street
Providence, R. I.

ENGINEERED Plastics
INCORPORATED
Gibsonville, North Carolina



ADJUSTABLE SPIRAL OPENING ROLL UNIT of Stainless, Brass or Steel with cut threads. Reported as the best and most satisfactory unit for Removing Wrinkles and Doubled Selvedges, by leading Finishers.

PATENT ELECTRONICALLY CONTROLLED SPREADER AND GUIDER, for keeping material central and free of wrinkles, in Dye Kettles and ahead of Squeeze Rolls, and in Continuous Machines, etc. Used particularly for Tufted Carpet. Made of Stainless Steel construction in widths up to 20 feet.

BIRCH BROTHERS, INC.

Harold W. Birch Clifford W. Birch Clifford W. Birch, Jr.

Phone: PRospect 6-3512
SOMERVILLE 43, MASS.
Dyeing and Finishing Machinery and Mill Sewing Machines

Southern Representative:
JOHN C. COSBY, P. O. Box 212, Phone: Greenville 5-5926
Greenville, S. C.

the various pigment impregnation methods as well as the reduced bath method. An outstanding characteristic of this product, which is well adapted for printing, is its excellent fastness to water spotting. In addition, it exhibits excellent to maximum fastness to light and very good to excellent fastness to most wet fastness tests including washing and chlorine.

National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Do you want more data? Write supplier or use card on page 199; list C-226

Now available for employees who suffer from cold feet while working on production lines, in offices or laboratories is a **portable foot warmer** which is safe and economical to operate. The 14" x 21" neoprene rubber mat throws off a gentle warmth that keeps operatives comfortable, thus they are more efficient and have fewer colds. Mat uses less power than a 75-watt light bulb.

General Industrial Co., 5750 N. Elston Ave., Chicago, Ill.

Do you want more data? Write supplier or use card on page 199; list C-227

The Type MH **packaged vaporizer for process heating** is designed for use with Dowtherm "A" or "E" Para-Cymene or Anisole to provide accurately controlled temperatures over a broad range. It can be used to obtain extremely high temperatures at low pressure. Control is simple, sensitive, and uniform. Featuring compact, three-drum design, the vaporizer is completely shop-assembled and shipped as a packaged unit for indoor or outdoor installation to meet requirements from 3,700,000 to 15,000,000 Btu/hr. Furnished for heating with oil, gas, waste heat or special fuels, the unit operates with a slight positive pressure in the furnace. The need for an induced draft fan is eliminated and stack height is materially reduced.

Union Iron Works, Erie, Pa.

Do you want more data? Write supplier or use card on page 199; list C-228

The new Garland **picker rod lubricant** firmly adheres to picker rods, eliminating mess and waste. Oil drip, excessive friction, overheating, and frequent loom stops for lubrication of this rod are avoided by use of it. Furnished with each tube of lubricant is a plastic spreader, designed to fit any type of rod, which screws onto the tube-cap threads. To apply lubricant, simply lay applicator on rod, gently squeeze tube, and draw it over the rod—an even film of grease covers rod surface.

Garland Mfg. Co., Water St., Saco, Maine.

Do you want more data? Write supplier or use card on page 199; list C-201

A new, light-weight **hand truck equipped with pneumatic tires** reduces the effect of load jar on fragile cargo when moving over rough ground, jumping curbs, etc. Tires serve to cushion the shock of impact, and also give added protection to floors and floor coverings. Rated to carry 400 lb, trucks are available in single- and double-handle models.

The Hamilton Caster & Mfg. Co., 1700 Dixie Highway, Hamilton, Ohio.

Do you want more data? Write supplier or use card on page 199; list C-202

A soft-seated, **solenoid-operated, floating-piston valve** for a wide range of industrial liquid and air control applications is available in ¾" and ½" sizes and with general purpose and explosion-proof powerhead housings. Quiet operation and 360-degree rotation of powerhead

are features of the new valves which are designated V4019A and V4019B.

Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Do you want more data? Write supplier or use card on page 199; list C-203

Now available is a **magnesium ladder** designed for use as a step ladder or a straight ladder. Then in less than 30 seconds the user can extend and rigidly lock the back legs to make the ladder into an extension ladder. The back section is also adjustable so that it is possible to use the ladder on uneven levels such as stairs. 6-ft size extends to 10 ft and weighs only 13 lb; 10 ft size extends to 18 ft and weighs only 22 lb.

Abbeon Supply Co., 179-33 Jamaica Ave., Jamaica 32, N. Y.

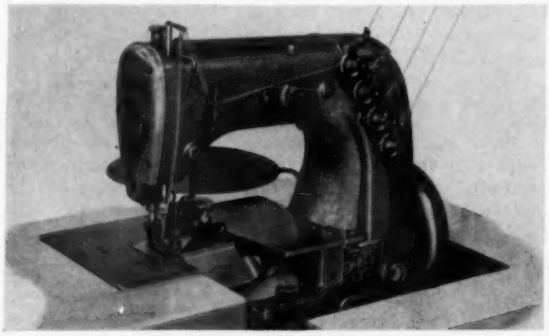
Do you want more data? Write supplier or use card on page 199; list C-204

Chrome-plated feed rolls for combers can now be purchased as replacements for plain feed rolls which have become nicked and burred to the extent that they snag fibers and cause lap-ups. The chrome-plated rolls stay smooth permanently, if not abused, and do not rust or oxidize with the passage of time.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

Do you want more data? Write supplier or use card on page 199; list C-205

The Style 51400 BJ is a two-needle, top feed industrial **sewing machine designed for trimming, binding, and sewing in one operation** on light to medium weight materials. With this machine, smooth, flat, bound seams are produced, even on curves with 2" or more radius. Combination of top and bottom feed provides increased feeding



power; sews variety of materials with only minor adjustments to the feed mechanism. Machine is equipped with improved type out-edge binder and compensating presser foot which provides excellent margin control.

Union Special Machine Co., 400 N. Franklin St., Chicago 10, Ill.

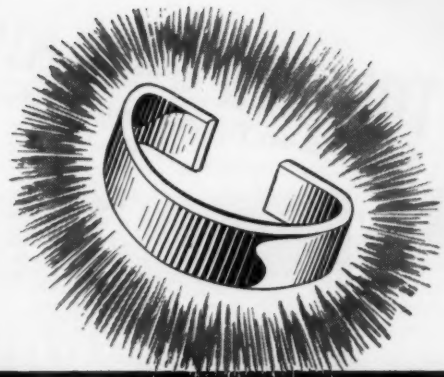
Do you want more data? Write supplier or use card on page 199; list C-206

New **Y-type pipe strainers for oil, gas, water, and steam lines** are suitable for pressures to 900 psi and temperatures to 900 F. The carbon moly steel strainers are available in sizes from ½" to 2", either screwed or socket welded. Stainless steel screens are standard, either .045" dia. holes, 226 per sq in. or 24 x 110 wire mesh; other screening material available on request. Stainless-asbestos gasket is locked between body and base of bushing, thus eliminating any chance of blowout.

Armstrong Machine Works, Three Rivers, Mich.

Do you want more data? Write supplier or use card on page 199; list C-207

A **light-duty, electric-hydraulic lifter** has a load capacity of 1,000 lb and is equipped with a ¾ hp motor with



DARY
Ring Travelers

OUR SPECIALTY!

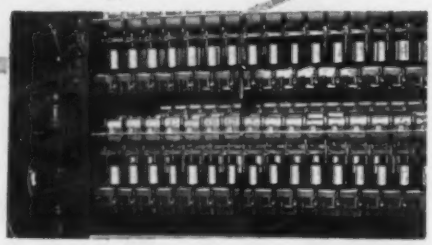
Our specialty is making Dary ring travelers—an item well and favorably known to the textile trade for more than half a century. Though times change, we at Dary hold to one course without deviation. We continue to serve, by pursuing our specialty.

When you need ring travelers, call on our experience to aid your choice. Consult your friendly Dary representative!

Always specify
DARY Ring Travelers

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS
LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S.C.

TON-TEX SPINNER BELTS
Standard on Twisters and Doublers since 1926



Lapless Endless — Factory made to your size without a lap.

Roll Stock — For splicing endless on your machines. Complete Ton-Tex vulcanizing system available, including portable vulcanizing plate, tools and cements.

Unexcelled Also For Coners and Winders

Write For Complete Literature

TON TEX Reg U S Pat Off

TON-TEX CORPORATION
31 Columbus Ave., Englewood, New Jersey
GREENSBORO, N. C. 217 Jefferson Bldg. BOSTON, MASS. 51 Sleeper St.
30 Years Serving Industry

magnetic fused starter. Lift height is 5′ 8″; lift speed, 15 fpm. 39″ length affords ease of handling and maneuverability.

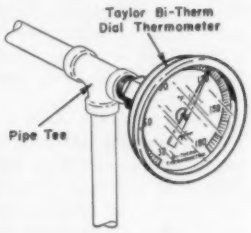
Colson Corp., Elyria, Ohio.

Do you want more data? Write supplier or use card on page 199; list C-208

"Ruggedwear/Firmflex" Resurfacer is a tough **concrete patching material** suited for a variety of floor repair jobs. As a patch, this material can be applied without any chipping or chopping, and it bonds to the old concrete right up to a feather edge. Will not grind away, dust or crack. May also be used as a complete overlay on almost any type of floor; installed at ½″ average it requires no wet curing and sets up crack-free in 18-20 hr. Can be applied by unskilled operatives, is economical, eliminates shutting down of floor areas, and saves floor from extensive damage as well as eliminating inconveniences and accidents.

Flexrock Co., 3653 Cuthbert St., Philadelphia 1, Pa.

Do you want more data? Write supplier or use card on page 199; list C-209



For use in pipe lines, hot water tanks, storage tanks, ovens, air ducts, etc., is a new bimetallic **dial thermometer** called the Bi-Therm dial thermometer. Easy to read, economical in price, rugged, and accurate within plus or minus 1% of range over the entire range, it is available with 3″ or 5″ dials and stem lengths of 4″, 6″, 9″, and 12″. Separable walls of brass, steel, type 304 stainless steel, or monel are available. Ranges: minus 40 F to plus 750 F.

Taylor Instrument Companies, Rochester 1, N. Y.

Do you want more data? Write supplier or use card on page 199; list C-210

10,000 sq ft of floor area can be polished in 30 minutes with a **31″ floor polishing machine** recently placed on the market. Designated the MC-31, it will do the work of four 16″ machines and is especially recommended for hallways and large unobstructed floor areas.

Multi-Clean Products, Inc., St. Paul, Minn.

Do you want more data? Write supplier or use card on page 199; list C-211

Excellent **softness is imparted to several synthetic fibers** by Nopco 1525-L, a 100% active liquid surface active agent of the nonionic type. The product, a polyoxyethylene ether of an alkylated phenol polymer, is also useful as an **antistatic agent** for many of the newer fibers. The good stability of emulsions made from this concentrate is unimpaired by the long storage of the concentrate.

Nopco Chemical Co., Harrison, N. J.

Do you want more data? Write supplier or use card on page 199; list C-212

Recently developed as a **softener ingredient for rayon tire yarn finishes** was Nopco 221-P, a modified ester of castor oil. It gives a soft feel to viscose rayon yarn. In this application there is also evidence of little scroop being imparted to the fibers. Tests show that treated fibers have low fiber-to-friction ratios. Although the product is water insoluble, it is possible to emulsify Nopco 2221-P either by the addition of emulsifiers or by partial saponification.

Nopco Chemical Co., Harrison, N. J.

Do you want more data? Write supplier or use card on page 199; list C-213

"Isolant" is a **vibration control material** particularly recommended for massive, difficult-to-isolate machinery such as extractors, compressors, etc., because it provides

TEXTILE PEOPLE WORKING *Safely and Efficiently* WITH ELECTRIC FEEDRAIL®

ELECTRIFICATION FOR MONORAIL SYSTEMS, CUTTING ROOMS, SEWING ROOMS, ETC.

Hundreds of textile manufacturers have chosen Feedrail for its safety and efficiency in distributing electric power to moving or stationary equipment. The modern Feedrail Trolley Busways eliminate the problems and troubles of open wiring, accidental contact, broken or frayed connections, long trailing cables, etc. – give you electric power where you want it, when you need it!

Feedrail's prefabricated overhead track sections and movable trolley outlets give your plant time and money-saving flexibility – easier rearrangement of sewing machines – faster, more accurate cutting operations – safer, more dependable power for monorail materials handling in your receiving, production, staging and shipping areas, etc.

WRITE FOR YOUR FREE COPY OF "THE FEEDRAIL STORY." ADDRESS DEPT. 22.

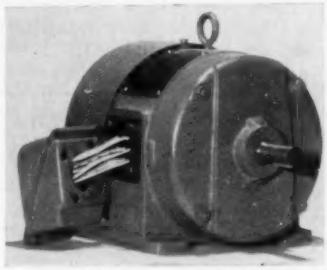
Never Becomes Obsolete

FEEDRAIL TROLLEY BUSWAYS
FEEDRAIL CORPORATION
Subsidiary of Russell & Stell Company, Inc.
125 Barclay Street • New York 7, N. Y.
Specially qualified representatives in principal cities.

effective isolation of the combination of vibration, shock, and noise. The product's relatively high structural strength and resiliency, the resistance to deterioration by oil, water, sunlight, and extremes of temperature, and its susceptibility to processing control form an efficient and practical means of reducing the operating noise and the vibratory ill effects of moving machinery. Isolant is available with load capacities ranging from 400 to 600 lb per sq ft and in 2", 3", and 4" thicknesses.

T. R. Finn & Co., Inc., 200 Central Ave., Hawthorne, N. J.

Do you want more data? Write supplier or use card on page 199; list C-214



Two new lines of **enclosed, non-ventilated, fan-cooled a-c motors ranging in size from 1 to 5 hp** are designated as "standard enclosed" and "severe duty enclosed." The standard enclosed motor features a steel conduit box and fan cover. The conduit box has "keyhole" mounting for quick and easy installation. The severe duty line is basically the same except for certain features which make the motor suitable for use in corrosive or excessively moist atmospheres—i.e., threaded parts are coated to prevent seizure; neoprene-sealed washers on through bolts; and a new type shaft seal which gives additional moisture protection.

General Electric Co., Small Integral Motor Dept., Fort Wayne, Ind.

Do you want more data? Write supplier or use card on page 199; list C-215

Hydrotrol, a new **water treatment controller for air conditioning and other recirculating cooling water systems,** maintains a fixed range of mineral concentration, precisely as desired, and at the same time feeds chemicals accurately, according to desired feed settings. After the desired chemical feed and mineral concentration range are determined and set, Hydrotrol operation is entirely automatic. Unit assures good treatment results, with a minimum of attention, and offers savings on maintenance, water, and chemical costs.

Heller Laboratories, Inc., 124 Fort Lee Rd., Leonia, N. J.

Do you want more data? Write supplier or use card on page 199; list C-216

National Blue 2BS Salt, a **stabilized diazonium salt,** is used to produce on cotton and viscose rayon a range of pleasing shades varying from greenish to reddish blue with the various National naphthols. Most of these colors exhibit good fastness to light and hot pressing; very good fastness to washing; and excellent fastness to soda boil, acids, alkalis, and rubbing.

National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Do you want more data? Write supplier or use card on page 199; list C-217

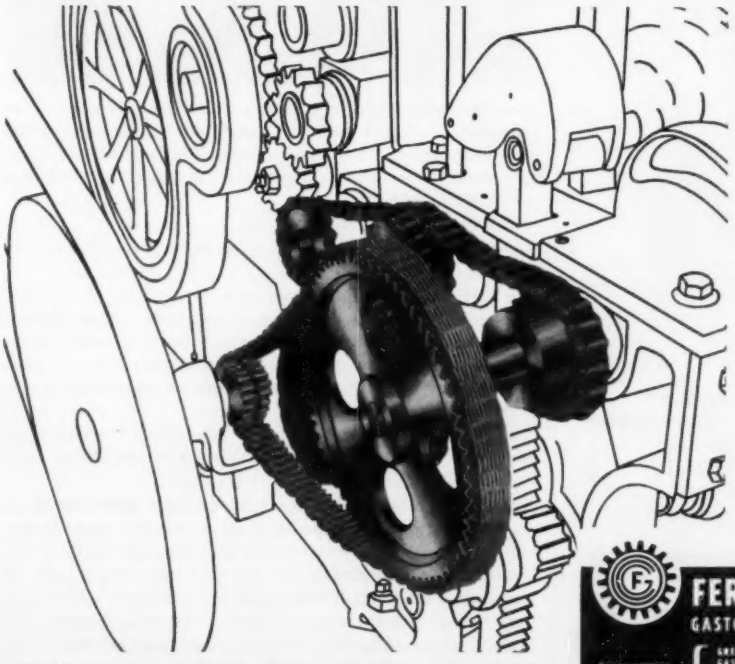
Designed for panel mounting where remote indication is required is the Veeder-Root **key-lock-reset magnetic counter.** Sturdy tumbler lock prevents tampering, and one turn of the key resets all six figures to zeros.

Veeder-Root Inc., Hartford 2, Conn.

Do you want more data? Write supplier or use card on page 199; list C-218

Six new Acme Flow-Cold **packaged liquid chillers,** ranging in capacities from 3 through 20 tons, require no

CHAIN DRIVES FOR SACO-LOWELL PICKERS



BY FERGUSON

Fluted Calender Roll Chain Drive and Driving Shaft Chain Drive especially made for the Saco-Lowell Picker.

We make textile and industrial gears for every purpose to your satisfaction.

For information or quotation contact your nearest Sales Engineer or write, without obligation, Box 511, Gastonia, N. C.

FERGUSON GEAR COMPANY
GASTONIA, NORTH CAROLINA • TEL. UN-4-2626

SALES OFFICES: GREENSBORO, N. C. — B. T. GLADDEN; GASTONIA, N. C. — R. W. LYNCH, TEL. 3-2442; DENVER, N. C.; GREENVILLE, S. C. — E. NEAL HOUSTON, TEL. 5-7939; LA GRANGE, GA. — JOHN FERGUSON, TEL. 5048, P. O. BOX 486

MEMBER AMERICAN GEAR MANUFACTURERS ASSOCIATION

MODERN RINGS PAY YOU "EXTRAS" EVERY WORKING DAY

— extra production . . . sometimes only a little, sometimes considerable . . . but CONSISTENT gains that add up.

— extra quality . . . easing the job of your Quality Control engineer . . . arming you with a selling weapon in the market.

Refer your ring problems to DIAMOND FINISH — world's largest ring plant — for constructive suggestions.

WHITINSVILLE (MASS.) SPINNING RING CO.
DIAMOND FINISH
Makers of Spinning and Twister Rings since 1873

Rep. for the Carolinas: W. K. SHIRLEY, 25 Oak St., Belmont, N. C.
Rep. for Ala., Ga., & Tenn.: H. M. JACKSON, 216 Longview Dr., Jefferson, Ga.

Mount Hope

Free Wheeling EXPANDER

Controls Width
Removes Wrinkles and Creases
LIGHTEST FABRIC TO HEAVIEST TIRE CORD

- ACCURATE
- CLEAN
- SIMPLE
- GENTLE

For even greater savings investigate a complete Mount Hope System for your plant Call or write today!

MOUNT HOPE MACHINERY COMPANY
150 FIFTH STREET, TAUNTON, MASSACHUSETTS
Southern Repair Shop, Charlotte, N. C.

cabinet or other special enclosure as sound-proofing. Quiet operation is assured by the newly designed compressor which is dynamically and statically balanced to minimize vibration. Controls are engineered for fast, accurate matching of chiller operation to the cooler load and provide full protection against accidental freeze-up of the unit. Only the simple, necessary connections to condenser water supply, drain, chilled fluid lines, and electric supply line, are required to put the machine into operation when it is received for installation.

Acme Industries, Inc., Jackson, Mich.

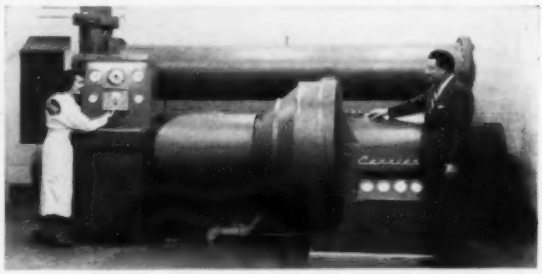
Do you want more data? Write supplier or use card on page 199; list C-219

"Desludgit" is a new **additive for #4, #5, and #6 fuel oil** that is designed to break up oil-water gels, dissolve sludge, and emulsify water in the oil. When the product is used in the fuel oil, the fuel system remains clean from fuel tank to chimney, because all of the oil purchased is consumed at peak atomization efficiency. Desludgit is non-corrosive and non-explosive and has a flash point of 206 F.

Stewart-Hall Corp., 6 N. MacQuester Parkway, Mount Vernon, N. Y.

Do you want more data? Write supplier or use card on page 199; list C-220

A **hermetic centrifugal refrigerating machine** for use with multi-story building and other large air conditioning installations has been announced. The compressor and electric motor, hermetically sealed in a single shell, provide simplified installation at lower cost, and eliminate the need for foundations. The completely integrated unit



operates automatically upon pressing the "stop-go" button on the control console. Quiet and vibrationless, the hermetic may be installed on upper floors or on the roof. The machine is initially available in capacities ranging from 100 to 325 tons.

Carrier Corp., Syracuse 1, N. Y.

Do you want more data? Write supplier or use card on page 199; list C-221

A **Teflon-based pipe dope,** called "T-Film," is recommended as a pipe sealant for corrosive or hazardous fluids and as an anti-seizing agent for use with alloys that gall readily, or in all cases where frequency or ease of disassembly of threaded elements in undamaged state is important.

Eco Engineering Co., 12 New York Ave., Newark, N. J.

Do you want more data? Write supplier or use card on page 199; list C-222

For economical removal of hard water scale build-up on or in valves, pipes, tanks, cooling towers, evaporators, boilers, heat exchangers, etc., a new product called "Ke-Tone" is recommended. By a degradation process, it suspends scale particles in all areas which favor precipitation, and allows the scale to dissolve in other parts of the system where solubility product relationships favor solution of the scale. Use of the product does not change equilibrium to favor precipitation of calcium or mag-

nesium from the water. The new compound also reduces or eliminates algae growth.

United Chemical Corp. of New Mexico, Hobbs, N. M.

Do you want more data? Write supplier or use card on page 199; list C-223

New Books

Engineers' Job Directory tells the requirements of 236 major firms needing 65 different categories of engineers. In 88 pages the 1956 edition covers the field from Acoustical to Welding. Textile engineering is one of the major listings. A typical company listing gives the correct firm name, its address, and date of founding. The products it produces are outlined as well as the industry to which it belongs. Indicating the size of the company is the total number of employees. Name and title of company official to whom job inquiries should be directed rounds out the information. Available from the publisher, Decision Inc., 1483 First National Bank Bldg., Cincinnati 2, Ohio. Price, $3.25.

Of interest to those dealing with products that are manufactured, sold, and distributed with a trademark or brand name is the recently published book *Trademark Management—A Guide for Businessmen.* It sets forth the policies with respect to all phases of handling a company's trademarks, including the selection, registration, correct use, protection, policing, difference between a trademark and trade name, and the problems of a U. S. trademark owner in foreign markets. Price, $5.00 from The United States Trademark Association, 522 Fifth Ave., New York 36, N. Y.

The New Sales Promotion in the Textile Industry, a larger and completely revised edition of James C. Cumming's book, "Sales Promotion in the Textile Industry," has just been published by Fairchild Publications, Inc., 7 East 12th St., New York 3, N. Y. (price, $4.95). The author analyzes the promotional techniques used by leading advertisers in virtually every segment of the textile and clothing industry. The broad group of case histories which he discusses covers the sales promotion campaigns of yarn manufacturers, weavers, converters, selling agents, men's and women's clothing manufacturers, and hosiery makers. Sources of guidance and information concerning textile marketing and promotion are included.

A new book of interest to union officials, textile mill management, and students of industrial relations is *Britain Views Our Industrial Relations,* by Mark J. Fitzgerald, associate professor of economics at the University of Notre Dame. Findings in this study are based primarily on an analysis of over 60 reports of select British union-management teams which visited their counterpart industries, including textile manufacturing, in the United States. Some topics discussed are: management policy on industrial relations; role of unions in American industry; wage standards in America and methods of income distribution. Price, $4.25 from University of Notre Dame Press, Notre Dame, Ind.

The second edition of *Textiles & Testing Course of Study* is now available from the United States Testing Co., 1415 Park Ave., Hoboken, N. J., at $2.75 per copy. Raw materials of the textile industry, yarn manufacturing and testing, fabric manufacturing and analysis, hosiery testing, and chemical tests on fabrics and dyestuff analysis are dealt with.

Panalarm Annunciator Systems Pinpoint Trouble on Process Operations and Automatic Machinery

Panalarm Annunciators are modern working tools used by management concerned with top output from a process or an automatic or semi-automatic machine. They give the operator control over his equipment, enabling him to produce more and better products at a greatly reduced reject rate.

Panalarm Annunciators are coordinated, multiple-unit signal systems that instantly alert the operator to off-normal process conditions at predetermined control points. The signals are both visual (illuminated windows or bullseyes) and audible (horns, bells, etc.). The Panalarm circuit is actuated by the closing or opening of any type of remote switch.

The system is modular, and it is completely flexible in operation and easily modified for future needs. Heavy duty construction to instrument standards throughout. Completely prewired, simple to install. Panalarm systems are engineered to your specific requirements.

Write for Bulletin 100A

PANALARM DIV., PANELLIT, INC.

7513 North Hamlin Avenue, Skokie, Illinois
Panellit of Canada Ltd., Toronto 14

Let
WEST POINT
Supply Your
LOOM BEAMS
Standard or Special

Prompt Quotations on Delivery and Price

LOOM BEAM HEADS

- Cast iron heads with cast tooth gear or cut tooth gear.
- With or without recess for beam barrel.
- Cast iron heads with friction drum for friction let-off.
- Steel plate heads with cast iron gear or friction drum.
- Many standard patterns available for prompt service. All sizes—18" to 36" diameter.
- Special heads to your specifications.
- Heads made of high grade cast iron; well molded teeth if sand tooth—or accurately machined if cut tooth.

LOOM BEAM BARRELS

- Long-life aluminum beam barrels carried in stock.
- Wooden beam barrels to your specifications.

ONLY WEST POINT MAKES ALL 7 SLASHERS

WEST POINT FOUNDRY & MACHINE CO.

WEST POINT, GEORGIA

IT'S INFORMATION CENTER

BOOKLETS
NEW EQUIPMENT
ADVERTISEMENTS

Use this opportunity to keep abreast of new information dealing with machinery, equipment, supplies and services available to your mill.
To obtain more information on advertisements, print the name of the advertiser in the space provided on the card below.
Free booklets and more information on new equipment items may be had by entering their key numbers in the space designated for this use.
This service is made possible by the advertisers of TEXTILE INDUSTRIES as an aid to mill men who want to keep well informed on new developments in the industry. We cannot, however, extend this service to you unless you print or write legibly your name and position, the name of your firm, and its address on the card.
Four cards are provided in case others in your plant would like information . . . and TEXTILE INDUSTRIES pays the postman!

FILL IN DATE OF ISSUE .....19....

Please send, without obligation, additional information on New Equipment and booklets described (give Key numbers) .....

.....

.....

Please send more information on advertisements (give Company Name)

.....

.....

Name .....Position .....
Company Name .....
Address .....
City .....State .....

FILL IN DATE OF ISSUE .....19....

Please send, without obligation, additional information on New Equipment and booklets described (give Key numbers) .....

.....

.....

Please send more information on advertisements (give Company Name)

.....

.....

Name .....Position .....
Company Name .....
Address .....
City .....State .....

FILL IN DATE OF ISSUE .....19....

Please send, without obligation, additional information on New Equipment and booklets described (give Key numbers) .....

.....

.....

Please send more information on advertisements (give Company Name)

.....

.....

Name .....Position .....
Company Name .....
Address .....
City .....State .....

FILL IN DATE OF ISSUE .....19....

Please send, without obligation, additional information on New Equipment and booklets described (give Key numbers) .....

.....

.....

Please send more information on advertisements (give Company Name)

.....

.....

Name .....Position .....
Company Name .....
Address .....
City .....State .....

POSTAGE WILL BE PAID BY TEXTILE INDUSTRIES...FILL IN AS DIRECTED AND DROP IN MAIL BOX!

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 881, SEC. 34.9, P. L. & R., ATLANTA, GA.

TEXTILE INDUSTRIES

806 PEACHTREE ST., N. E.

ATLANTA 5, GA.

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 881, SEC. 34.9, P. L. & R., ATLANTA, GA.

TEXTILE INDUSTRIES

806 PEACHTREE ST., N. E.

ATLANTA 5, GA.

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 881, SEC. 34.9, P. L. & R., ATLANTA, GA.

TEXTILE INDUSTRIES

806 PEACHTREE ST., N. E.

ATLANTA 5, GA.

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 881, SEC. 34.9, P. L. & R., ATLANTA, GA.

TEXTILE INDUSTRIES

806 PEACHTREE ST., N. E.

ATLANTA 5, GA.

HELPFUL BOOKLETS FREE!

3-1 AIR HAND DRYERS. Illustrated folder explaining the high-speed air dryer for hands with savings of approximately $600 per dryer per year over towels. Write National Dryer Sales Corp., 616-22 W. Adams, Chicago, Ill.

3-2 SOLVENT DETERGENTS. Revised sixteen-page, illustrated booklet tells how solvent detergents, used without heat, remove carbonized grease and oil and certain types of paint, and provide temporary rust protection after cleaning. Write Oakite Products, Inc. 126C Rector St., New York 6, N. Y.

3-3 AIR GUIDER. Booklet shows how Mecho Air Guider will simplify your guider problems, reduce maintenance cost, increase guiding efficiency. Write The Guider Specialty Co., 425 West Rock Ave., New Haven 15, Conn.

3-4 FLOAXIAL DIAL SCALES. Illustrated bulletins explain in detail the "Floaxial" dial mechanism on the Overhead Track Scales, Warehouse Dial Scales, Cabinet Dial Scales and Bench and Portable Dial Scales. Write Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

3-5 UNISORB. 23-page illustrated booklet describes how UNISORB reduces transmitted vibration 60%-85%, saves 10%-30% on installation costs and can be installed without bolts or floor drilling. Write The Felters Co., 210 South St., Boston 11, Mass.

3-6 STATIC ELIMINATOR. Bulletin describes various types of Chapman Static Eliminators and how they increase production, improve quality and reduce waste by eliminating STATIC effectively, at low cost, and safely. Write The Portland Co., 58 Fore St., Portland 6, Maine.

3-7 ONE-SHOT LUBRICATORS. Detailed description and operating mechanism of pull-type semi-automatic lubricators are described in a two-page, service instruction sheet. Write Bijur Lubricating Corp., 151 West Passaic St., Rochelle Park, N. J.

3-8 HYCAR LATICES IN TEXTILES. New 16-page service bulletin features a chart showing the physical properties of the Hycar latices and typical fields of application for each. Write Advertising Department, B. F. Goodrich Chemical Co., 324 Rose Bldg., Cleveland 15, Ohio.

3-9 ATKINSON-HASERICK EQUIPMENT. Complete file of booklets available from Atkinson-Haserick constitutes useful catalog of equipment with complete description of each piece. Write Atkinson, Haserick, 211 Congress St., Boston 6, Mass.

3-10 AVISCO RAYON CARPETS. New 4-page leaflet entitled "A Clean Carpet is a Handsome Carpet" gives tips for maintaining an Avisco rayon carpet. Write for Bulletin No. 3193, American Viscose Corp., 359 Fifth Ave., New York, N. Y.

3-11 FLOOR TREATMENTS. Current product literature available on Shine-All, Hil-Tex, Hil-Brite, Cem Seal, and Surfcoat. Applications shown. Write Hillyard Chemical Co., St. Joseph, Missouri.

3-12 AUTOMATIC LUBRICATORS. Four page brochure describes "high pressure" automatic lubricators and their application to a wide range of machines. Write Bijur Lubricating Corp., 151 West Passaic St., Rochelle Park, N. J.

3-13 CORROSION RESISTANT COATINGS. New four-page bulletin on NEOPRENE W, an economical single-package synthetic rubber-coating, for use in corrosive atmospheres in general plant maintenance. Write Carboline Co., 331 Thornton Ave., St. Louis 19, Mo.

3-14 ENGINEERED SPECIAL HAZARD FIRE PROTECTION. New highly illustrative catalog covering the various generally accepted methods of fire detection, fire prevention, fire control and fire extinguishment. Write "Automatic" Sprinkler Corp. of America, Youngstown, Ohio.

The Laurel Leaf

BUSINESS MAGAZINE EDITION

Here's good news for mercerizers . . . Laurel MERCERIZING PENETRANT 5X will give you excellent results in caustic soda concentrations up to 56° Twaddle! It's a light colored cresylic type product, recommended for both yarn and piece goods.

●

Need a good all-around wetting agent? It's Laurel SUPERTERGE L, a sodium alkyl aryl sulfonate in easy-to-use liquid form. No dissolving or dispersing problems. Just dip it out and pour it in. Excellent stability to hard water and acids. And, it has good detergent properties.

●

Try Laurel OLITEX 4M as a softener for those sulfur black dyed yarns. It will give just the right degree of softness and lubrication to the yarn. And watch the shade bloom! Performance tested over many years. Liquid form—easily dispersed in water—no boiling or homogenizing needed. Write for sample.

●

No frantic calls like "fireman save my child" are necessary when you specify and use Laurel FIRE RETARDANT 527C. Here is a non-durable type product which assures results that will surprise you! It's available in liquid form for easy handling.

●

If you are not satisfied with the results you are getting in your kier wet out box, your troubles are over! Laurel KIEROL A is an industry-proved formulation compounded especially for the needs of kier boiling. We're confident it will provide the answer to your problem. Like a sample? Write.

●

Our regular magazine issue of the LAUREL LEAF is published on a bi-monthly basis. It contains interesting facts and helpful data. We'd be glad to send you copies. Write us direct or through this publication.

Laurel Brand

Laurel SOAP MANUFACTURING CO., INC.
TIOGA, THOMPSON & ALMOND STS., PHILA. 34, PA.

Warehouses: Paterson, N. J., Chattanooga, Tenn., Charlotte, N. C.

ALL STEEL
ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.
ECONOMY BALER CO., DEPT. C. ANN ARBOR, MICH., U.S.A.
REPRESENTATIVES:
43 Water St., New York 4, N. Y. 170 Summer St., Boston 10, Mass. Drexel Bldg., Philadelphia, Pa.

"TAILOR-MADE" For Your Operation!

Designed and manufactured to your specifications. Made-to-measure for correct fit, uniformity and to give you maximum production. For filling winders for your exact mill operation, call on Lazenby.

Just send us a small supply of your yarn, we'll wind and return with Test Wind Report and Catalog.

F. A. LAZENBY COMPANY
3106 ELM AVENUE BALTIMORE 11, MD.

KENTEX
TEXTILE APRONS

KENTEX long draft aprons are precision-built, to any specifications, on short notice. Write us, sending size, for free samples and prices. We are world's largest manufacturers of genuine leather textile aprons.

TEXTILE APRON COMPANY
East Point, Georgia
Hugh Williams & Company—Toronto, Canada

PRECISION BUILT

HELPFUL BOOKLETS FREE!

GENERAL, ECONOMICAL MANAGEMENT . . .

8. TEXTILE RESEARCH AT AMERICAN VISCOSE — Color booklet tells the story of the Textile Research Department which is, in effect, a many-sided textile mill. — AMERICAN VISCOSE CORP., 350 Fifth Avenue, New York 1, N. Y.

11. "WHERE DID THEY HIT PAY DIRT?" — Booklet describes how many manufacturing concerns have come South and why they found it profitable. Gives industrial advantages of the Southeast. Write CENTRAL OF GEORGIA RAILWAY, Industrial Development Department, 501 Rhodes Haverty Bldg., Atlanta 3, Georgia.

15. NEW INDUSTRIAL FIBER — Technical bulletin now available on Fortisan-36, new industrial fiber by Celanese. Uses text, charts and diagrams to present technical properties, characteristics and recommendations for processing. — TEXTILE SALES DEPARTMENT, Celanese Corporation, Charlotte, N. C.

17. A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK — 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management. — AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18. RAYON—MILE BY MILE — Color booklet describes how Industrial Rayon Corporation produces rayon mile by mile which is perfect inch by inch. — INDUSTRIAL RAYON CORP., 500 Fifth Ave., New York 18, N. Y.

22. THE WONALANCET WAY — Is the title of an editorial booklet published five times a year and deal with current problems which appear worthwhile at the time they are written. — WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

23. TEXTILE STEELS — Six booklets are available from Atlantic Steel Company which will prove valuable to persons concerned with the purchase or use of steel. — ATLANTIC STEEL CO., P. O. Box 1714, Atlanta 1, Ga.

24. THE CHEMSTRAND NYLON STORY — Booklet describes one of the greatest industrial ventures of the textile industry in the South — the birth and growth of Chemstrand Nylon. — CHEMSTRAND CORP., 350 Fifth Ave., New York 1, N. Y.

PLANT & PLANT MAINTENANCE . . .

102. "TANK TALK" — Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, stornge and high pressure vessels; cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING — Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

105. CASTERS AND WHEELS — Catalog gives complete description on full line of industrial casters and wheels. Features patented "LOCKWELD" Steel Casters Without A Kingpin" both Single and Double Ball Race. — THE FAIRBANKS CO., 393 Lafayette St., New York 3, N. Y.

106. FINNELL COMBINATION SCRUBBER-VAC —Illustrated literature gives complete specifications and describes various methods of combination-machine-scrubbing, including method recommended for cleaning oily floors. — FINNELL SYSTEMS, INC., 1300 East St., Elkhart, Indiana.

111. CERTIFIED CLIMATE AIRCHANGER SYSTEM — Bulletin describes Certified Climate Airchanger System as used with direct humidification for partial or complete air conditioning. — PARKS-CRAMER CO., Fitchburg, Mass.

112. HARDWOOD FLOORING — Booklet entitled "Specialist in Manufacturing of Hard Maple Flooring for textile plants." For complete information, write — CONNOR LUMBER & LAND COMPANY, P. O. Box 810, Wausau, Wisconsin.

113. COTTON MILL EQUIPMENT — This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc. WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

114. PENETRATING WOOD FINISH — Bulletin gives applications, uses and application specifications of floor seals for textiles. — E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIVISION, Wilmington, Delaware.

115. FOAMGLAS — Illustrated brochure features information on how the use of Foamglas cellular glass insulation solved the severe insulating problems of leading users. — PITTSBURGH CORNING CORP., One Gateway Center, Pittsburgh 22, Pa.

116. STOP CORROSION — Details on speed Rex paint for metal wood and concrete maintenance solving condensation problems. — TRUSCON LABORATORIES, Box 69, Milwaukee Junction, P. O. Dept. T. Detroit 11, Mich.

117. CLEANING SYSTEMS — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

118. LIQUIDATION INFORMATION — Information available on how to profitably dispose of mill properties being liquidated. Tells how Comer will buy, sell and relocate industry in your former site. — COMER MACHINERY CO., 684 W. Peachtree St., Atlanta, Ga.

120. STAINLESS STEEL FOR TEXTILES — 40-page booklet gives applications and advantages of stainless in textile plant equipment of all types. — ALLEGHENY LUDLUM STEEL CORP., Dept TI-71, Oliver Bldg., Pittsburgh 22, Pa.

121. CRANES AND HOISTS — Portfolio of bulletins describes the complete line of Shepard Niles traveling hoists and floor or cab operated traveling cranes. — SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N.Y.

122. TEXTILE MILL CLEANING GUIDE — Useful book by Oakite prescribes methods and means of proper mill cleaning and maintenance. — OAKITE PRODUCTS, 26C Rector St., New York 6, N. Y.

HELPFUL BOOKLETS FREE!

123. ROLLER BEARINGS FOR TEXTILES — Easy to read non-technical bulletin describes where and how Hyatt Roller Bearings are employed for more profitable textile production. — HYATT BEARINGS DIV., GENERAL MOTORS CORP., Harrison, N. J.

125. STATIC ELIMINATION — Bulletin by Simco describes effective, simple, safe and inexpensive means of eliminating static. — SIMCO COMPANY, 920 Walnut St., Lansdale, Pa.

126. TOLEDO TRUCK SCALES — Booklet tells how mills may save on installation and throughout long, useful life of Toledo Truck Scales. Gives capacities and advantages. — TOLEDO SCALE COMPANY, Toledo 1, Ohio.

127. SOLENOID VALVES — Bulletin "V" lists sizes from ⅛ inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations. — THE JOHNSON CORP., Three Rivers, Mich.

130. STAINLESS STEEL FABRICATION — Illustrated color booklet by Sims describes the advantages of stainless steel with regard to textile operations. Also includes information on ventilating and drying, slasher exhaust, and materials handling systems. — SIMS METAL WORKS, West Point, Ga.

131. "AIR-PROCESSING" — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

132. AUTOMATIC BOILERS — Bulletin describes POWER-MASTER Automatic Boilers for light and heavy oil; gas or combination Gas-Oil Firing. Complete table of data. — ORR AND SEMBOWER, INC., Reading, Pa.

135. COLOR CONDITIONING — Booklet illustrated in color describes how Du Pont color conditi safety brought out which color can aid. — E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIV., Wilmington 98, Delaware.

138. METAL CONVEYOR BELTS — Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Bolt design and application, along withtheir Woven Wire Constructions and Positive Drive Chain Edge belts. —ASHWORTH BROS. INC., METAL PRODUCTS DIV., Fall River, Mass.

146. FUNCTIONAL GLASS BLOCK DATA — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. — PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS — Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.

151. INDUSTRIAL BRUSHES — Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines — also flock, raising and cylinder brushes. — M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. LAMINATED TEXTILE PLASTICS — Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry. — SYNTHANE CORPORATION, TEXTILE DIVISION, Oaks, Penna.

161. AUTOMATIC CLEANING EQUIPMENT — Complete booklet by American MonoRail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit. — AMERICAN MONORAIL CO., 13107 Athens Ave., Cleveland 7, Ohio.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE — Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.— G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

173. BLOWERS AND EXHAUSTERS — Bulletin No. 3014-D describes types "F" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings. — BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

174. PAINT STRIPPING BOOKLET — Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun, (2) hot flow-on; (3) cold spray; and (4) tank immersion. — OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

181. AIR FILTRATION — Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance, characteristics, construction and installation fully discussed. — AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

203. TREADED LEATHER BELTING — This 16 page booklet describes Houghton's line of patented, specially treated leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section. — E. F. HOUGHTON & CO., Philadelphia, Pa.

205. MAINTENANCE OF VARIABLE SPEED DRIVES — Bulletin describes and illustrates the simple but comprehensive program available to keep Reliance V-S Jr. Drives in operation at peak efficiency.—RELIANCE ELECTRIC & ENGINEERING CO., 1088 Ivanhoe Rd., Cleveland 10, Ohio.

206. CUTLER-HAMMER MOTOR CONTROL — Booklets describe the combination starters for the textile industry, for roving frames and spinning frames, loom switch and Cutler-Hammer Motor Control for tactile cards. — CUTLER-HAMMER, 315 N. 12th St., Milwaukee, Wisconsin.

209. STEEL PULLEYS — Pictorial review of American Steel Pulleys, their manufacturing processes and some of their end uses. Textile pulleys are featured. — AMERICAN PULLEY CO., 4200 Wissahickon Ave., Philadelphia 29, Pa.

212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others. — THE GATES RUBBER COMPANY, 1001 Broadway, Denver 17, Colo.

213. LUBRICATION OF ELECTRIC MOTORS — Illustrated bulletin on lubricating and cleaning ball and roller bearings on electric motors. — NEW YORK & NEW JERSEY LUBRICANT COMPANY, 292 Madison Ave., New York 17, N. Y.

218. BALL BEARINGS FOR TEXTILE MACHINERY — A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing. — THE FAFNIR BEARING CO., New Britain, Conn.

222. AUTOMATIC PRODUCTION CONTROL — Booklet by Reeves Pulley Company, shows application of many automatic processes and controls to the textile industry. Well illustrated, it contains engineering data quite useful to anyone interested.—REEVES PULLEY COMPANY, Columbus, Indiana.

223. LUBRICATION OF BEARINGS — Booklet entitled "Lubrication and Maintenance of Ball and Roller Bearings" gives helpful list of do's and don'ts to prolong bearing life. Also includes valuable information on storage and handling of lubricants. — NEW YORK & NEW JERSEY LUBRICANT CO., 292 Madison Ave., New York 17, N. Y.

225. HYDRAULIC SLASHER DRIVES — Color booklet by Vickers shows how hydraulic drives provide an economical approach to improved slasher operation. Has detailed pictures and enumerates advantages. — VICKERS, INC., 1936 Peachtree St., Atlanta, Ga.

228. NEW NEEDLE OIL — Booklet by Shell gives facts on Vexilla Oil 117, which gives 12 times more rust protection during operation and during shut-down periods. — SHELL OIL CO., 50 West 50th St., New York 20, N. Y.

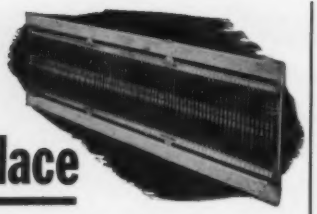
229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive. — DODGE MANUFACTURING CORP., Mishawaka, Indiana.

230. INDUSTRIAL GREASES — Now available from Sinclair is a bulletin detailing qualities and specifications of multi-purpose lithium soap industrial greases. — A. S. RANDAK, SINCLAIR REFINING CO., 600 Fifth Ave., New York, N. Y.

232. "VARI-PITCH" SHEAVE BULLETIN — Stationary and motion control of "Vari-Pitch" sheaves for speed variation up to 76 % by means of pitch diameter adjustment, capacities 1 to 600 HP are described in new bulletin. — ALLIS-CHALMERS MFG. CO., Milwaukee 1, Wisconsin.

THIS
Brook Motor
WAS RAISED ON
Textiles
the world's most respected motor
1 TO 500 H.P.
Open Drip Proof, Totally Enclosed Fan Cooled, Totally Enclosed Non-Ventilated, NEMA "C" flange and "D" flange, Extended Shaft Pump Motors and Special Motors.
Brook Motors are built for the gruelling jobs — continuous operation in extreme heat — built to surpass NEMA specifications. They have established a fine performance record in the Textile industry throughout the world, powering openers, picker dusters, cards, looms and other textile mill machinery. You can't buy a better motor, yet THEY COST LESS than even ordinary motors. Send for Brochure — learn how Brook Motors can save for you.
• FAST DELIVERY OF ALL POPULAR MODELS
Brook Motors are available from warehouses at Chicago; Dallas; Jersey City, N. J.; Los Angeles; San Francisco; Salt Lake City; Memphis, Tenn.; Savannah, Georgia; Seattle; Tampa, Fla.; and other major distributing points.
SINCE 1904
BROOK MOTOR CORPORATION
3553 W. PETERSON AVE., CHICAGO 45, ILL.
BROOK MOTOR CORPORATION

Harnesses Cleaned in Place Without Binding Warps



One Pennsylvania textile mill was troubled with heavy deposits of lint, sizing, and dust that built up on their reeds and harness assemblies. Solvent cleaning was ineffective because the sticky soils would drop down into the heddles and cause the warps to bind.

Then, the local Oakite Man suggested spraying the parts with a solution of Oakite Composition No. 12. Results were immediate: Soils and gummy deposits were thoroughly removed, and surfaces dried down smooth and clean with just the right "slip". Oakite Composition No. 12 provided temporary rust prevention, too, and greatly reduced subsequent build-ups of lint and sizing deposits. For more details, write Oakite Products, Inc., 26C Rector Street, New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

TRADE MARK REG. U. S. PAT. OFF.

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada

Precisioned to Size

Precisioned for Concentricity

Precisioned for YOUR Spindles

PRECISION® N·E·B BOBBINS

The bobbin that gives you the best run for your money. Want samples? Write us!

Makers of PRECISION Automatic Loom Bobbins

NEW ENGLAND BOBBIN & SHUTTLE CO.
33 Crown Street
NASHUA, N. H.

STATIC

It's wasteful. It's costly! But the SIMCO *"Midget"* Static Eliminator *guarantees* to be effective—at the lowest possible cost. Standard and shockless bars for every application. Equip now.

the SIMCO company
920 Walnut Street, Lansdale, Pa.

HELPFUL BOOKLETS FREE!

233. LEATHER BELTING — Booklet by Atlanta Belting Co., describes comprehensively the selection, installation, and proper maintenance of modern leather belting. — ATLANTA BELTING CO., 508-510 Whitehall St., S.W., Atlanta, Ga.

234. SPINDLE OIL — Color brochure describes "Gulfspin," showing how it insures against excessive wear in cast iron bolsters and provides freedom from spindle wobble. — GULF OIL CORPORATION, Gulf Bldg., Pittsburgh, Pa.

235. JOHNSON LEDALOYL BEARING BRONZE — Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. — JOHNSON BRONZE COMPANY, New Castle, Pa.

237. MOTOR CONTROL — Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed. — CUTLER-HAMMER INC., Milwaukee, Wisc.

238. TEXTILE LEATHERS CATALOG — Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated. — J. E. RHOADS & SONS, 2100 W. Eleventh St., Wilmington 99, Del.

240. CATALOG OF NEEDLE BEARINGS — New catalog conveniently presents design, application and use data for five types of needle bearings. Actually an engineering short course on bearings with visual index units. — THE TORRINGTON CO., Torrington, Connecticut.

253. TEXTILE LUBRICATION — "Lubrication" a magazine published by the Texas Co. is available. Shows methods and means of lubricating chain drives in very comprehensive form. — THE TEXAS CO., 135 East 42nd St., New York 17, N. Y.

256. METERED LUBRICATION — Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc. — BIJUR LUBRICATING CORP., Rochelle Park, N. J.

265. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, DIVISION OF GENERAL MOTORS CORP., Bristol, Conn.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

302. TEXTILE INSTRUMENTATION—New booklet gives details on Brush Lapcheck, Brush Tension Analyzer, Brush Imperfection Counter, and Improved Uniformity Analyzer. Pictures uses and capacities of each machine discussed. — BRUSH ELECTRONICS CO., 3405 Perkins Avenue, Cleveland 14, Ohio.

304. WASTE HEAT RECOVERY — Color booklet describes Bready System of waste heat recovery from polluted or soiled waste water. Includes pictures and complete facts. — LUDELL MFG. CO., 5300 West State Street, Milwaukee, Wisconsin.

305. AUTOMATIC MOISTURE CONTROL—Booklet tells how Hunter Electro-Psychrometers are used in measuring percentage of moisture in all classes of textiles, whether yarns or fabrics.—HUNTER CONTROLS, INC., DIV., JAMES HUNTER MACHINE CO., North Adams, Mass.

313. "THE FAIRBANKS VALVE COMPARISON CHART" — New reference manual important in specification, ordering, and using of bronze and iron-body valves. — THE FAIRBANKS COMPANY, 393 Lafayette Street, New York 3, N. Y.

315. MICRO SWITCH BULLETIN — Complete selection of bulletins featuring Micro Switch products is now available. Includes prices, characteristics, applications, etc. — MICRO SWITCH DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., Freeport, Ill.

316. MOISTURE CONTROLLER AND INDICATORS — Literature available from Strandberg Engineering covers indicators for slashers, tenters, etc.; for direct connection to pickers, and automatic controllers for connection to same. — STRANDBERG ENGINEERING LABORATORIES, 416 W. Market St., Greensboro, N. C.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame. — RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

324. STROBOTAC — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

337. COUNTING DEVICES — Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. —TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

339. NEW LUBRICATED PLUG VALVES—Illustrated booklet by The William Powell Co. features a new line of semi-steel and steel lubricated plug valves. Advantages include quick and positive shut off. — THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

CARDING, SPINNING, WINDING . . .

401. FEEDERS—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

HELPFUL BOOKLETS FREE!

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

403. TRAVELING CLEANER — 4-page bulletin describes the improved Parks-Cramer Frame and Room Cleaners including the Underframe and Floor Sweepers. — PARK-CRAMER CO., Fitchburg, Mass.

404. LAPLESS ENDLESS SPINNER — Bulletin and full information wil lbe supplied on lapless endless spinner and coning belting. — TON-TEX CORPORATION, 31 Columbus Ave., Englewood, N. J.

405. CARD GRINDING INFORMATION — Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information. — B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

411. SHEET METAL WORK — Pamphlet describes spinning cylinders, aspirators, card screens, sheet metal specialties. — GASTONIA TEXTILE SHEET METAL WORKS, INC., 222 East Long Avenue, Gastonia, N. C.

412. SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS, INC., Gastonia, N. C.

413. HIGH SPEED, AUTOMATIC QUILLER — Color booklet by Schlafhorst describes the "Autocopser" Automatic Quiller. Gives advantages, space requirements, etc. — TERRELL MACHINE CO., INC., Charlotte, N. C.

414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing stright or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

416. THE BRIEF SAGA OF THE RING TRAVELER — An interesting history relative to the ring traveler, which is l mreality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered. —NATIONAL RING TRAVELER CO., Pawtucket, R. I.

417. FEATHERTOUCH DRAFTING — Booklet describes in detail with pictures the most uniform drawing, the strongest drawing with the highest production per frame at the lowest cost. — IDEAL INDUSTRIES, INC., Bessemer City, N. C.

419. TEXTILE APRONS — Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery. — TEXTILE APRON COMPANY, East Point, Ga.

422. WARPER BEAMS — Folder describes the high speed for rayon tire cord, cotton warper beams, cast aluminum end supports and large diameter heads. — U. S. BOBBIN SHUTTLE CO., Lawrence, Mass.

423. SPINDLE OILING MACHINE — Information available on new Spindle Oiling Machine. Features include filter system to clean oil for reuse; smaller size for narrow aisles. — WICACO MACHINE CORP., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

424. GREASE-SEALED, ANTI-FRICTION ROLLS — Booklet contains description and engineering drawings o fth eCole grease-sealed, anti-friction rolls. Also contains information on dual apron controlled drafting units. — COLE ENGINEERING CORP., P. O. Box 153, Columbus, Ga.

425. HANDY REFERENCE TABLES — Folder showing spinning traveler speeds, sizes of ring flanges, etc. — VICTOR RING TRAVELER CO., Providence, R. I. and Gastonia, N. C.

426. UNIRAIL UPTWISTER — Bulletin describes Universal Winding's headless package or bobbin take-up Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed. — UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence, R. I.

429. BETTER FLYER AND SPINDLE EFFICIENCY — Entertaining booklet by Ideal Machine Shops gives facts about Flyers and Spindles which have helped many mills gain more efficient production, better yarn quality. — IDEAL MACHINE SHOPS, INC., Bessemer City, N. C.

431. TEXTILE VACUUM SYSTEM — Color bulletin by Spin Sa Vac describes application of their vacuum system to drawing, roving and spinning processes, and for the remova lof broke nends, fly or sliver. Complete diagrams and shots of typical installations. — SPIN SA VAC CORPORATION, 1438 South Tryon St., Charlotte, N. C.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

433. PERMANENT PLATE MAGNETS — Bulletin shows how Eriez Magnetic Separators prevent fires and protect machinery from tramp iron in all types of textile mills. — ERIEZ MFG., Erie, Pa.

434. SPINNING AND TWISTER RINGS — Catalog and price list now available on Whitinsville "Diamond Finish" spinning and twister rings. Complete details and pictures. — WHITINSVILLE SPINNING RING CO., Whitinsville, Mass.

435. DOUBLE DECK TWISTERS — Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up spool packages) and Acme (up to 10 oz. packages) models for high speed twisting of silk, rayon, nylon, etc., to finest deniers. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration o fScott Testers, clamps for testers, gear-box lubrication, and recording. — SCOTT TESTERS, INC., Providence, R. I.

437. PRECISION GEAR BULLETINS — Now available from Precision Gear are bulletins on machinery products for cleaning and picking, roving frames, spinning and twisting and a general catalog on gears. — PRECISION GEAR AND MACHINE CO., 2001 N. Tryon St., Charlotte 2, N. C.

438. HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING — Literature shows high-speed Face Drive Twister for accurately building tapered or straight-end headless packages which go direct to quilling or warping without redrawing. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

439. PNEUMAFIL SUCTION CLEANING SYSTEMS — Booklet describes types of Pneumafil Systems, gives details of new Collector Unit model C-4. New type LFC Pneumafil is also discussed. Diagrams, comparison charts and installation pictures included. — PNEUMAFIL CORP., Charlotte 8, N. C.

440. CUSTOM MADE THREAD GUIDES — Color brochure describes complete line of American Lava Company's thread guides. Composition, properties, specifications of all designs included. — AMERICAN LAVA CORPORATION, Chattanooga 5, Tenn.

444. OPENING AND CLEANING MACHINERY— Color brochure by Dodenhoff describes their waste machine, enclosed feeder, conveyors and cleaner. Specifications included with pictures. — W. D. DODENHOFF CO., Box 178, Greenville, S. C.

445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

448. AUTOMATIC BLENDING SYSTEM—Dodenhoff system ,called "Fiber Meter" is fully described in color booklet. Gives actual operating results, shows pictures and illustrates typical conversion of old fashioned systems. — W. D. DODENHOFF CO., 745 Loundes Hill Road, Greenville, S. C.

449. NEW CONDENSER TAPE — Literature by Benjamin Booth describes newly introduced SUPR-O-TAPE, an impregnated fabric condenser tape. Shows actual sample of tape and gives complete prices. — BENJAMIN BOOTH CO., Allegheny Ave., & Janney St., Philadelphia 34, Pa.

450. HIGH SPEED AUTOMATIC QUILLER — Color booklet describes the Schlafhorst "Autocopser," listing its advantages and givi- dimensions. — TERRELL MACHINE CO., INC., P. O. Box 928, Charlotte, N. C.

451. ROLLER BEARING SPINDLE — Color booklet gives principal features and main advantages SMM Roller Bearing Spindle. Detailed drawings included. — H. PHIL WORTH, Box 1555, Greenville, S. C.

Are You Getting a Fair Day's Work for a Fair Day's Pay?

As Production Engineers we specialize in the utilization of

LABOR—EQUIPMENT—MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"We most highly recommend the American Associated Consultants. We think this service is very worth while."

AN IMPORTANT WOOLEN MILL

Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

AMERICAN ASSOCIATED CONSULTANTS, Inc.

D. S. KEOGH, President — **H. B. CRAFT, Vice President and Manager of Operations**

250 PARK AVENUE
NEW YORK 17, N. Y.

GRANT BUILDING
PITTSBURGH, PA.

30 CAMDEN ROAD
ATLANTA, GA.

"What You Want When You Want It"

WONALANCET

PERUVIAN COTTON

Tanguis Pima
Karnak

WONALANCET COMPANY

3240 Peachtree Road, N.E., Atlanta, Ga.
And 128 Burke Street, Nashua, New Hampshire

COTTON YARNS

Knitting and Warp
4's to 30's Single and Ply
Uniformity
Carded Combed

COMER-AVONDALE MILLS, INC.

Boston — Chattanooga — Chicago — Charlotte — New York
Philadelphia — Reading

representing

AVONDALE MILLS
Sylacauga, Alabama

COWIKEE MILLS
Eufaula, Alabama

PINS and LAGS

Special pins and pin arrangements produced for processing wool, cotton, synthetics, jute, sisal, flax, mill waste and shoddy.

Volume production by precision methods permits attractive prices on all types. Prompt deliveries.
W. H. Bagshaw Co., Inc. (Est. 1870) 42 Pine St., Nashua, N. H.

B Co.

by BAGSHAW

HELPFUL BOOKLETS FREE!

452. PNEUMAFIL LINT-FREE CREEL — Color booklet describes the new Airfoil Design Pneumafil type LFC with Built-in Lint-Free Creel. Gives complete details and pictures. — PNEUMAFIL CORPORATION, Charlotte 8, North Carolina.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning.—USTER CORPORATION, Charlotte, N. C.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers. — HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models — Standard, Warp, and Double Disc fully described with specific application. — WALTER KIDDE & CO., INC., 190 Main St., Belleville 9, N. J.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO MACHINE COMPANY, Lansdale, Pa.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. — IDEAL MACHINE SHOPS, Bessemer City, N. C.

472. TWISTING MACHINERY — Bulletin gives outstanding features, specifications facts and useful information on Novelty Yarn Twisters for Cotton, Silk, Worsted and Rayon Yarns. — COLLINS BROTHERS MACHINE COMPANY, 647 Roosevelt Ave., Pawtucket, Rhode Island.

474. BALL BEARING COMB BOXES — Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown. — SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES — Color booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies ,mill supplies, roll covering for cotton, silk and synthetic and woolen and worsted systems. An excellent guide book. — ARMSTRONG CORK CO., INDUSTRIAL DIV., Lancaster, Pa.

476. TEXTILE FIBER OPENER FOR COTTON, SYNTHETICS, WOOL — New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SRRL Opener. Complete operating procedure is described. — CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

479. TIPS ON CARDING PROCEDURE—Monthly bulletin by Ashworth Brothers includes many useful tips and advice on carding operation, maintenance and care and is available to anyone interested. Bulletin is a reprint of section appearing on green paper in this issue. — ASHWORTH BROTHERS, Fall River, Mass.

485. WEAVER'S KNOTTER — A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. E. CARTER, INC., Gastonia, N. C.

486. COTTON SIZING WASTE PROBLEM SOLUTION — Booklet describes the use of soluble, low-pollutional CMC in place of starch and how this can reduce costs. —HERCULES POWDER CO., Wilmington 99, Delaware.

WEAVING, SLASHING . . .

501. LOOMS — An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms." Information on all types fully discussed. — CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502. COUNTING AND MEASURING DEVICES—Condensed textile catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery. — VEEDER-ROOT, INC., Hartford, Conn.

504. LOOM SUPPLIES — Literature describing complete line of straps, Strapping, pickers, dobby cords, sticks, binders, bumpers, brake lining and allied products. — E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

505. INNOVATION IN TEXTILE DRYING — Booklet by J. O. Ross gives details on Steam or Gas "Hot Air" Slasher for high speeds at low cost. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

508. SLASHING HINTS — A 20-page booklet offering helpful hints on warp sizing. Subjects: Size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods, weighing for the mix, tips on cooking equipment, storage in kettles, etc. — SEYDEL-WOOLLEY & CO., 748 Rice St., N.W., Atlanta, Ga.

509. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., Greenville, S. C.

HELPFUL BOOKLETS FREE!

510. CONTROLLED SIZING — Brochure in color describes the legend, operation and specification of the new Griffin Size Machine. Features most important basic improvements in size machines in many years. — IRA L. GRIFFIN & SONS, P. O. Box 1576, Charlotte, N. C.

511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

514. THE STORY OF STARCHES — Semi-technical booklet tells the story of starches and information on how they are produced, the creation of new specialty starches, the unique "man-made" starch derivatives, and the handling of starches. — NATIONAL STARCH PRODUCTS, INC., 270 Madison Avenue, New York 16, New York.

515. WARPING, SLASHING, WEAVING ARNEL YARNS — 8-page booklet preliminary information on Arnel Triacetate Yarns. — CELANESE CORP. OF AMERICA, TEXTILE DIVISION, Box 1414, Charlotte, N. C.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

519. ALIGNING LAYS — Informative booklet gives setting instructions for aligning lays. Complete treatment, including step-by-step drawings.—DRAPER CORPORATION, Hopedale, Massachusetts.

521. STEEL WARP BEAMS — 20 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broad-loom and narrow fabrics. Also Textile Machinery Specialties. — MILTON MACHINE WORKS, INC., Milton, Pa.

525. STAINLESS DRY CANS — Bulletin describes advantages of Unistel Stainless Dry Cans including details of construction. Profusely illustrated. — UNISTEL TEXTILE MACHINE CORP., 225 Westchester Avenue, Port Chester, N. Y.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included. — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

541. BOOKLETS ON COCKER CUSTOM BUILT EQUIPMENT — Six new bulletins available from Cocker include information on the high speed Warp Sizer, high speed Beam Warper, Cocker Creels and Tension, Beam Back-Winders, Indigo Dyeing Ranges, Kettles, T-Boxes, etc. — COCKER MACHINE & FOUNDRY CO., Gastonia, N. C.

545. NOPCO CHEMICAL DATA SHEETS — Now available are Nopcostats, Nopco Sizes N and D, Important points in Warp Sizing, Interpretation of Analysis, Wetting Agents, Balanced wool and worsted oils, Acetate warp sizing, Viscose warp sizing, Rayon soaking. — NOPCO CHEMICAL CO., Harrison, N. J.

DYEING, FINISHING CLOTH ROOM . . .

601. CONTINUOUS PEROXIDE BLEACHING RANGES — Booklet gives illustrations and describes uses and gives specification of Ranges. — RODNEY HUNT MACHINE CO., 49 Mill St., Orange, Mass.

603. EMCO ROTARY CUTTER WINDER — Bulletin gives applications, sizes and exclusive features.—H. W. BUTTERWORTH & SONS CO., Bethayres, Pa.

604. DYEING, BLEACHING AND DRYING EQUIPMENT — Excellent color brochure by Morton describes their complete line of dyeing, bleaching and drying equipment for cotton, wool and synthetics. — MORTON MACHINE WORKS, 1718 3rd Ave., Columbus, Ga.

606. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc. — B. F. PERKINS & SONS, INC., Holyoke, Mass.

607. RIBBON CALENDERS — Brochure features Dickerhoff Ribbon Calenders for the purpose of calendering, embossing, etc., of narrow fabrics. — ENGINEERING WORKS, HERM. DICKERHOFF LTD., Wuppertal Barmen, Western Germany.

608. WASHERS FOR SCOURING, BLEACHING, ACIDIFYING — Well-illustrated booklet shows how Sargent's modern, high-capacity, continuous process washers can help maintain quality and decrease costs. Contains operation diagram and good commentary on construction. — C. G. SARGENT'S SONS CORPORATION, Graniteville, Massachusetts, U.S.A., for bulletin 195.

609. WET PROCESSING MACHINERY — Complete file of bulletins on Riggs and Lombard Wet Processing Machinery available. Write for catalog index sheet giving summary. — RIGGS AND LOMBARD, INC., Suffolk Street, Lowell, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes pre-boarding and automatic boarding machines for hosiery. — PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

611. LOW COST DYEING — Bulletin by Blickman describes their fully enclosed, stainless steel Dyebox. Reports increased production per man hour and more runs per day at lower cost. Write for bulletin 7034.—S. BLICKMAN, INC., Gregory Ave., Weehawken, N. J.

612. JAMES HUNTER MACHINES FOR DYEING AND FINISHING — Comprehensive Catalog contains complete file of bulletins on all Hunter machines having application in dyeing and finishing. Excellent reference data for dyehouses. — JAMES HUNTER MACHINE CO., North Adams, Mass.

613. HERMAS TEXTILE MACHINES — Selection includes brochures on Unwind Stand, Automatic Guiding Unit, Jet Mixer, Selvage Trimming, Clothroom Machinery. — HERMAS MACHINE CO., Hawthorne, N. J.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

618. APPLICATION OF FUGITIVE DYES — Bulletin describes UNITINT operation, giving advantages of effectively controlling the application of fugitive dyes to various fibers. — W. D. DODENHOFF COMPANY, 745 Lowndes Hill Rd., Greenville, S. C.

619. PENFORD FINISHING GUMS — Booklet by Penick & Ford gives complete data, including physical properties and results which may be expected on Penford gums. — PENICK & FORD, Ltd., 420 Lexington Ave., New York 17, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS — Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job. — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

621. "DYEING SYNTHETIC FIBERS" — Brochure giving a comprehensive, detailed analysis of the methods and materials available for dyeing synthetic fibers. — GENERAL DYESTUFF CO., 435 Hudson St., New York 14, N. Y.

627. SINGLE APRON STOCK DRYERS — Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. — C. G. SARGENT'S SONS CORP., Graniteville, Mass.

628. TREATMENT OF SYNTHETIC TEXTILE FINISHES — High speed drying and curing of synthetic finishes by means of far-infrared radiation is covered in a new 12 page folder entitled "The Textile Report" by Edwin L. Wiegand Company, 7700 Thomas Blvd., Pittsburgh 8, Pa.

630. COMPLETE NAPTHOL MANUAL — Practical workin ghandbook, 110 pages, on textile dyeing and printing applications of Napthols. Write on company letterhead to PFISTER CHEMICAL WORKS, Box 326, Ridgefield, N. J.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods.—FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1-C illustrated bulletin detailing right and wrong application and use of washers. — E. H. JACOBS NORTHERN DIV., Danielson, Conn.

636. NAPPERS FOR TREATING ANY FABRICS — Bulletin gives complete details on the Muller Tri-Napping Machine with 24, 30, or 36 rollers. Dimensions and weights included. — FRANZ MULLER, M. Gladbach, Germany.

637. BALL BEARING TURN TABLE — Leaflet describing this 48 inch diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth opening machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

You can say

Good-bye!

to Ring Problems

when you change to

G-C NON-MELTING TWISTER RING LUBRICANT

For years, cotton mill operators have been hoping for a twister ring lubricant that contains no tallow, lard or fatty acids as the usual lubricants do. Mill operators want a lubricant made for modern plants by modern methods G-C Non-Melting Twister Ring Lubricant fills the bill completely. It is colorless. Lasts several times longer, because it resists heat. It means less ends down—more productive hours. There's nothing like it!

Other G-C Lubricants

BEN-BOY

for dryers, calenders, slashers, printing machines, dye house lubrication, preboarders, kilns, etc.

NON-MELTING OIL

for top rolls, comb boxes, looms, motors.

Also: White Star Spindle Oil
Kaloom Oil Number 9
G-C Non-Melting Oiler

Write, wire or phone

GEORGIA CAROLINA OIL COMPANY

Box 101 MACON G-C GEORGIA Phone 2-1428

For Nearly Half A Century

• • • • we have been printing Textile Industries and other W. R. C. Smith Publications in our growing plant which is today one of the South's largest, leading and most progressive printing organizations.

L. A. LEE Company, Inc.

DALTON, GEORGIA

Printers and Publishers

Industrial Engineers

MODERNIZATION PROGRAMS
PLANT LAYOUTS
MANAGEMENT PROBLEMS
WORK LOAD STUDIES
COST REDUCTION REPORTS
COST SYSTEMS SPECIAL REPORTS

Specializing in Textiles for over 40 Years

RALPH E. LOPER CO.

GREENVILLE, S. C. Dial 2-3868

FALL RIVER, MASS. Dial OSborne 6-8261

G. S. HAND TACHOMETERS and SPEED INDICATORS

for **MAXIMUM PRODUCTION**

IDEAL FOR MOTORS - SHAFTS - SPINDLES - LOOMS - TURBINES - FOR TEXTILE AND POWER PLANTS.

1% Accuracy for any range from 30 to 100,000 RPM or surface speed. Antimagnetic durable mechanism. Efficient repair service at moderate charges.

WRITE FOR ILLUSTRATED FOLDER

GEORGE SCHERR CO., Inc.

200 L LAFAYETTE STREET • NEW YORK 12, N.Y.

HELPFUL BOOKLETS FREE!

630. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

642. SELVAGE OR BACK MARKING MACHINE —Complete specifications and performance data on a new fully automatic marking machine available from Kaumagraph. — KAUMAGRAPH CO., Wilmington 99, Delaware.

643. SURFACE-ACTIVE AGENT — Bulletin gives characteristic properties, suggested applications, etc. of the Nonionic Octylphenoxyethanol Triton Surface-Active Agents. — ROHM & HAAS CO., SPECIAL PRODUCTS DEPT., Philadelphia 5, Pa.

644. DYEING, BLEACHING, FINISHING BULLETINS — Saturator for roped goods, J-Box (for Becco process), J-Box (for duPont Process), Continuous Bleaching Ranges, Carrier Reels, Drum-Type Plaiter are available from WIESNER-RAPP CO., INC., 1600 Seneca Street, Buffalo 10, New York.

653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate, straight line guiding of open width goods. Bulletin 862-PG. — MOUNT HOPE MACHINERY CO., Fifteen Fifth St., Taunton, Mass.

659. SONOCO TUBES FOR PACKAGE DYEING — Color bulletin describes Sonoco's DYTEX tubes for one-time use in standard package dyeing equipment to achieve uniformity. — SONOCO PRODUCTS CO., Hartsville, S. C.

DYESTUFFS, CHEMICALS, SOAPS . . .

701. MAGNESIUM APPLICATIONS — Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry. — DOW CHEMICAL CO., Midland, Mich.

704. FUNDAMENTALS OF INDUSTRIAL WATER TREATMENT PROCESSES—24-page booklet entitled "If You Use Water" discusses the fundamentals of the three major classifications of industrial water treatment based on iron exchange: softening, dealkalization, and deionization. — ROHM & HAAS COMPANY, RESINOUS PRODUCTS DIV., Washington Square, Philadelphia 5, Pa.

705. THEORETICAL AND APPLIED SILK-SOAKING — Attractive twenty-three page booklet outlining method of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk. — HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

707. BRINE FOR TEXTILE INDUSTRY — 32-page booklet on the Lixate Process replaces former booklet on making brine that has been a standard reference for years. Contains much more technical information. — INTERNATIONAL SALT CO., INC., Scranton, Pa.

710. DEPUMA — An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing. — AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

712. CATALYST AC-6 — Booklet describes how Catalyst AC-6 steps up curing efficiency as much as 25% Free eight-ounce bottle upon request. — MONSANTO CHEMICAL COMPANY, PLASTIC DIVISION, DEPT. T1-3, Springfield 2, Mass.

714. NEW SODA ASH BULLETIN — 64-page edition contains both new material and revisions of previously used data covering the subject. — SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

715. AQUAROL AND ARKANSAS PRODUCTS — Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing. — ARKANSAS CO., INC., Newark, N. J.

719. WOOL OIL — Descriptive booklet on antistatic fiber lubricant, Twitchell 7421. Performance factors given particular emphasis are static control, scourability, lubricity and resistance to yellowing. — EMERY INDUSTRIES, INC., DEPT. 5, Carew Tower, Cincinnati 2, Ohio.

720. INDUSTRIAL OIL — Bulletin catalogs all of Swift's Industrial Oil and Fatty Acid products. Included are detailed specifications, shipping information and suggested usage on products of animal, vegetable and marine sources. — SWIFT & COMPANY, INDUSTRIAL OIL DEPARTMENT, 1800 165th Street, Hammond, Indiana.

722. RESINS & LATICES — Booklet describes chemigum, latex, pliolite latex, plivoia latex, plovic AO and their applications. Gives properties of Goodyear Latices. — GOODYEAR CHEMICAL DIV., 1144 East Market St., Akron 16, Ohio.

723. CHEMICAL CATALOG — Features detergents, wetting agents, emulsifiers ,brighteners, sequestrants, dyeing assistants with chemical composition, properties and application.—ANTARA CHEMICALS DIV., GENERAL ANILINE & FILM CORP., 435 Hudson St., New York 14, N. Y.

724. WICA CHEMICAL BULLETINS — Bulletins describe in technical terms the various Wica Products for textiles. Issued each month for the benefit of industry, they are an excellent help in wet processing. To get on the mailing list write WICA CHEMICALS, INC., P. O. Box 596, Charlotte, N. C.

726. CELANESE ORGANIC CHEMICALS—Booklet gives complete technical details on Celanese organic chemicals including uses and descriptive data. Useful addenda to files.—CELANESE CORPORATION, CHEMICAL DIVISION, 180 Madison Ave., New York 16, N. Y.

727. COLOR PRINCIPLES — Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. — SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

729. STATIC AND STATIC CONTROL — Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them. — DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

733. WOOL OILS — Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil. — PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

734. BLEACHING WITH PEROXYGEN CHEMICALS — Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept., Bulletin No. 52, now available. — BUFFALO ELECTRO-CHEMICAL CO., INC., Station B, Buffalo 7, New York.

745. RAPIDASE FOR DESIZING — Bulletin explaining in detail the properties and characteristics of Rapidase. — WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

746. INDUSTRIAL CHEMICALS — 24-page booklet listing alphabetically Harshaw industrial chemicals and applications. — THE HARSHAW CHEMICAL COMPANY, 1945 East 97th Street, Cleveland, Ohio.

HELPFUL BOOKLETS FREE!

747. CATIONIC SURFACE ACTIVE AGENT — Technical bulletin describes Harshaw's UVERSOFT "D" which produces full, soft hand while acting as an outstanding anti-static agent. — HARSHAW CHEMICAL CO., 1945 East 97th St., Cleveland 6, Ohio.

748. CHEMICALS, DYES AND INTERMEDIATES — Complete file of bulletins available on Metro-Atlantic products. Covers wide range. Write for product resume showing bulletins offered to METRO-ATLANTIC, INC., Centredale 11, R. I.

753. TRITON X-100 — Booklet available describing this highly concentrated detergent and wetting agent. Main uses fully discussed and chemical properties brought out. — ROHM & HAAS COMPANY, Philadelphia 5, Pa.

757. THE CHEMISTRY OF CYNANURIC CHLORIDE — Very comprehensive technical text by American Cyanamid Co. Gives physical properties, reaction chart, chemical properties, potential applications, toxicity, table of alcohol reactions, table of amine and related compound reactions. — AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

766. DU PONT PEROXIDE BLEACHING SYSTEMS — New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included. — E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

769. SURFACE TENSION DEPRESSANT — The Booklet, "Mercerizing and Alkamerce — The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing. — HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

774. ROYCE TEXTILE CHEMICALS — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing. — ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

800. SYNTHANE TEXTILE PARTS — Folder on laminated bobbins, pirns, headless package tubes, hosiery turning and examining forms, sizing bobbins, etc. — SYNTHANE CORP., 9 River Road, Oaks, Pa.

801. THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE — Literature on request from the WILDMAN MFG. CO., FULL FASHIONED DIVISION, Norristown, Pa.

803. TIPS ON SEAMING NYLON STRETCH HOSIERY — Pamphlet lists in detail observations and suggestions on seaming nylon stretch hosiery prepared by Union Special as a result of findings of engineers in the field. — UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Ill.

804. BOOKLETS ON FIDELITY MACHINES — Following booklets available: Fidelity "400", Fidelity Multi-Design Ribber, Fidelity Skein Reelers. — FIDELITY MACHINE CO., 3908-18 Frankford Ave., Philadelphia 24, Pa.

808. REINER WARPER — Full width and sectional warpers for all requirements in the knitting and weavin gindustry fully described in recent catalog. — ROBERT REINER, INC., Weehawken, N. J.

818. FORGED HEAD ALUMINUM BEAMS — Bulletin 49-A shows new beam capable of holding high yardage of nylon and rubber warps, with specifications. Also describes permanent mold aluminum tricot and section beams. — MILTON MACHINE WORKS, INC., Milton, Pa.

828. THE KIDDE KNITTER— Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it. — KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

924. BUTT-TACKING SEWING MACHINE — Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking. — THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

MATERIALS HANDLING . . .

1003. CASTERS AND WHEELS — 192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this. — DARNELL CORP., LTD., 12000 Woodward Ave., Downey, Calif.

1006. LANE CANVAS BASKETS — 16-page illustrated booklet describing the Lane line of canvas baskets for textile use. — W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrationsshowing successful applications of monorail systems to meet every kind of handling problem.—THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. CASTERS AND WHEELS — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters. — THE COLSON CORP., Elyria, Ohio.

1009. HOW TO TEST CORRUGATED BOXES — 24-page booklet offers a comprehensive check-list by which to judge the protective qualities and durability of specific corrugated boxes. — HINDE AND DAUCH, Sandusky, Ohio.

1010. CONVEYOR KEY BOOK — A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN CO., 1115 Franklin St., Louisville, Ky.

1015. OVERHEAD MATERIALS HANDLING — Three booklets available from Louden Machinery Co. treat economical material handling, twin fan ceiling cleaners, and shock proof electrification. — LOUDEN MACHINERY CO., Fairfield, Iowa.

1018. BALL BEARING TROLLEYS — 20 page catalog by Link Belt describes entirely new line of ball bearing trolleys for overhead conveyors. Contains pictures, specifications charts and diagrams. — LINK-BELT CO., 307 Nœrth Michigan Ave., Chicago 1, Illinois.

1019. HOW TO SELECT A LIFT TRUCK — An equipment analysis guide and rating table has been introduced by Hyster for comparison and selection of fork lift trucks. Gives an excellent means for price comparison between trucks of a similar nature. — HYSTER CO., 2902 N. E. Clackamas St., Portland 8, Oregon.

1021. CORRUGATED CONTAINERS — Brochure by Gaylord describes Multi-Unit and Bulk Containers which have been adapted for the textile field. — GAYLORD CONTAINER CORP., 111 N. 4th St., St. Louis 2, Mo.

1023. CONTINUOUS POWER CONVEYOR—Color Brochure gives complete information on ZIG-ZAG Continuous Power Conveyor. Application pictures, diagrams, construction features included. — RICHARDS-WILCOX MFG. CO., Aurora, Ill.

1030. CDF RECEPTACLES —This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

1033. STRESSES ON OVERHEAD TRACKS — Booklet describes in detail stresses developed in various type tracks used for overhead materials handling systems. Track peening also covered. — CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

MISCELLANEOUS . . .

1102. BALING PRESSES — An illustrated folder describing this manufacturer's complete line of balers for all materials. Both downstroke and upstroke models. — ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1105. SHADOGRAPH WEIGHING DEVICES — Bulletins describe scales for weighing, dyestuffs, cotton samples, wool yarn, cones of yarn. Pictures and complete information on each type of scale included. — EXACT WEIGHT SCALE CO., Columbus 8, Ohio.

1111. BRUSHES — A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry. —GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. THE RANDOM WEB PROCESS — Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams. — CURLATOR CORPORATION, TEXTILE DIVISION, 565 Blossom Rd., Rochester, N. Y.

1113. MACHINE KNIVES — Catalog and price sheets describing this company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. TEXTILE WRAPPING MACHINES — Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made. — HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1122. BALING PRESSES — Bulletins available describing this company's line of motor-driven and hydraulic baling presses for finished-goods, textile fibers, wool, and waste of all kinds. — LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee, Wisconsin.

RESEARCH and SERVICE is the formula that makes NORTH size the best buy for your mill.

High production and quality weaving are made possible by proper size, correct application and alert service.

You can call on NORTH with confidence for all three...and for assistance in all technical and practical matters relating to size.

FRANK G. NORTH INCORPORATED
MANUFACTURING CHEMISTS
Atlanta, Ga. • P.O. Box 123, Sta. A • Phone Plaza 3-2196
Marietta, Ga. • P.O. Box 92 • Phone Marietta 9-4323

The Nation's largest manufacturer of Sizing Compounds, Gums, Waxes, and other kindred products for all warp yarns.

SUPPLIERS News
WHAT THEY ARE DOING

(Continued from page 58)

sales manager of the textile colors division of **Interchemical Corporation,** with headquarters at the main office in Hawthorne, N. J.

Howard E. Reith has joined the **International Salt Company** as sales engineer. He works from the company's Philadelphia and Baltimore offices. Mr. Reith was associated with Diamond Alkali Company for over nine years as technical service representative.

James Balloch has joined the staff of **Ivey Chemical Co., Inc.,** Greenville, S. C., as sales manager. For the past three years Mr. Balloch had been southern representative of Jacques Wolf & Co.

Koppers Company, Inc., has taken over the marketing of textile dyes made by Pittsburgh Coke & Chemical Co., whose sales staff has joined Koppers' wholly-owned subsidiary, American Aniline Products, Inc., at its Lock Haven, Pa., plant. Pittsburgh Coke & Chemical continues to produce a number of vat dyes which are not made by American Aniline, but all marketing is handled by the Koppers subsidiary.

Don W. Lyon has been elevated to general sales manager of the textile division of **L.O.F. Glass Fibers Co.,** where he supervises sales of the company's glass textile yarns and roving. He was formerly manager of textile sales.

Russell W. Boettiger has been appointed director of sales for **Leslie Co.** to direct the marketing of steam, air, and liquid regulators and controllers.

Following the resignation of S. O. Dodge as chief engineer of the **H. F. Livermore Corporation,** L. G. Urquhart was designated acting chief engineer. Mr. Urquhart had been service and research engineer for the past eight years.

Ludell Manufacturing Co. has purchased the patents and rights to manufacture and sell the Bready systems of waste heat recovery and Bready systems of hot water heating. William and John Bready, who developed the systems, continue to be active with Ludell in a consulting and advisory capacity.

Charles E. Wood, with headquarters in Charlotte, N. C., is the newly appointed sales representative for **Metal Film Company, Inc.'s** metallized Mylar yarn in the Carolinas and Virginia. John Ferguson has been appointed to cover Georgia, Alabama, Mississippi, and Tennessee; his office is in LaGrange, Ga.

Energy Controls Co., Inc., with main offices in New York City and Philadelphia, has been appointed representative for **Moisture Register Company** on the middle Atlantic seaboard. E. S. Browning Co., Inc., of Los Angeles, is west coast representative. The line handled includes moisture content indicating devices for use on textiles and other products.

Joseph I. De Avellar, Jr., Norton, Mass., has been appointed technical representative for **Mona Industries, Inc.,** to cover the New England states.

Morris Machine Works, Baldwinsville, N. Y., announces the association of J. C. Cary as a sales engineer with its representatives for the New York, northern New Jersey, and Long Island area. Mr. Cary has been a sales engineer at the company's home office for the past two years.

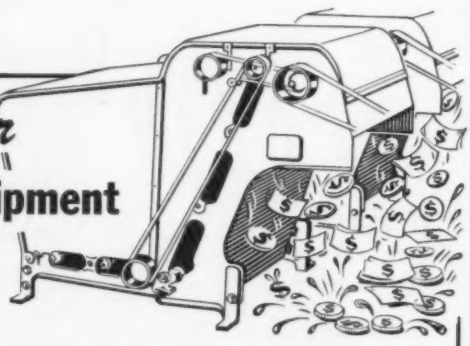
Morse Chain Company has appointed Raymond H. Whitney as southeastern district manager for the company's complete line of power transmission products. His headquarters are in Charlotte, N. C.

The Louis P. Batson Co., Greenville, S. C., was recently appointed southeastern distributor of hand dryers manufactured by **National Dryer Sales Corp.**

Officers of the **National Industrial Leather Association** for 1956 are: President—J. N. Smith of E. F. Houghton Co.; vice-president—John R. Lovett of Cleveland Oak Belting Co.; treasurer—A. B. Laurence of Laurence Belting Co. Reelected to the position of executive vice-president and secretary was E. R. Rath, who continues to be located at the headquarters at 320 Broadway, New York.

James W. Furr has been transferred from the Greensboro, N. C.,

Maybe *Your* Opening Equipment has Leaks



Free surveys made by Dodenhoff engineers indicate the need for changed opening specifications in about 30% of the mills. Some simple recommendations, such as respacing of apron slats or new pin sizes, have resulted in greatly improved apron efficiency.

Dodenhoff engineers are well qualified to survey your needs and make the right recommendations, because Dodenhoff makes machinery in which aprons are used and are familiar with apron requirements.

Ask for a Dodenhoff survey today. It's free.

New and Reworked Textile Aprons—Beater Slats
Waste Machine Cylinders—Kirschner Beaters

W. D. DODENHOFF CO.
INCORPORATED
GREENVILLE, SOUTH CAROLINA

office of **North American Rayon Corp.** to the New York sales office, where his duties include development of new uses for Narco yarn in the industrial field.

The Research & Control Instruments Division, **North American Philips Co., Inc.,** has established a new office at 96 Bloomfield Ave., Newark, N. J., to serve the New Jersey and eastern Pennsylvania territory formerly covered by the F. J. Mullowney X-Ray Co. John O'Connor is district manager, Frank Cavanaugh is sales engineer, and Frank Stein is service engineer.

Rupert Riley, formerly with Fieldcrest Mills, has joined the sales division of **Pneumafil Corp.,** as product

Mr. Riley

specialist handling the Pneumafil Lint Free Creel for spinning frames.

Walter J. Blair has been named process pump specialist for **Peerless Pump Division,** Food Machinery & Chemical Corp., with headquarters at the company's Los Angeles plant.

Succeeding Clarence M. Brown, who recently retired as chairman of the board of **Pittsburgh Plate Glass Co.,** is Harry B. Higgins. David G. Hill replaces Mr. Higgins as president of the company.

Elected to higher offices recently created by **Reliance Electric & Engineering Co.** were Edward E. Helm, vice-president and general manager, and Charles R. Sutherland, controller.

Woodford D. Miller is now executive vice-president in charge of eastern operations of **Robertshaw-Fulton Controls Co.** Jean V. Giesler, who recently retired after almost 43 years with the company's Fulton Sylphon Division, is succeeded by Freeman G. Cross, vice-president and general manager.

Rohm & Haas Company has moved two of its offices to new locations. The San Francisco office is now located in the new Pacific Mutual Building at 600 California St. The Atlanta office has been moved to 1428 West Peachtree St., N. W.

Newly appointed sales representative for **Refined Products Corp.** in the central eastern states is George H. Rhodes, whose office is at 713 West Ave., Jenkintown, Pa.

Sandoz Chemical Works, Inc., has announced the construction of new laboratory, office, and warehouse facilities at 4000 Monroe Road, Charlotte, N. C., including the latest equipment for the application of dyestuffs and chemicals on all types of fibers. The Charlotte branch is under the direction of Frank P. Mackinney, southeastern manager. • • • Sandoz recently acquired a substantial interest in Toms River-Cincinnati Chemical Corp., a vat dye manufacturing plant.

The name of the Greenville (S. C.) Belting Co., which was purchased several years ago as a southern division of Schmidt Manufacturing Co., has been changed to **Schmidt Manufacturing Co. of S. C.** Oliver N. Walker was recently appointed vice-president in charge of sales.

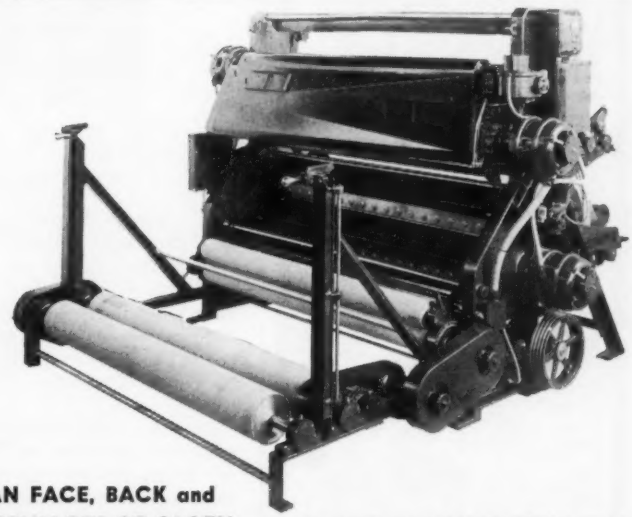
Larry T. Nelson & Co., 2824 S.W. Montgomery Drive, Portland, Oregon, has been appointed representative in the West for **Riggs & Lombard, Inc.'s**

Mr. Nelson

stainless steel products, including "The Fleet Line" of textile equipment for wet finishing, carbonizing, and dyeing.

Following a recent merger, Electric Controller & Manufacturing Co. is now being operated as a division of **Square D Company.** The division is housed in its newly completed 340,000 sq ft plant in Cleveland, Ohio.

A regional office of its technical service division has been established by **The Texas Co.** at 873 Spring St., N. W., Atlanta, Ga., under the direc-



CLEAN FACE, BACK and BOTH SELVAGES OF CLOTH IN A HERMAS SHEAR *AUTOMATICALLY*

Removes all hanging selvage ends at one pass at rate of 150 yards per minute.

Do a perfect cleaning job on up to 150,000 yards of cloth a week.

One important mill has handled its entire production of 450,000 yards a week with a single Hermas Shear! It has operated that shear three shifts for eight years. In all that time it has not had to stop the shear ONCE to replace a single part!

For performance like this investigate the Hermas Shear.

Write today for brochure. No obligation.

HERMAS Machine Co. 227 Royal Avenue Hawthorne, New Jersey

Call MILTON for dependable BEAMS

Light Metal featuring continuous welded construction

NYLON & RUBBER YARN BEAMS

FORGED HEADS
RIGID BARRELS

Forged heat-treated aluminum alloy heads and extra heavy wall barrels designed to withstand extreme pressures of monofilament; fine denier; low-turn nylon; and rubber yarns. 13¾" and 21" diameter heads.

SECTION BEAMS

Adaptable to all makes of warpers. Cast aluminum alloy heads and extruded aluminum barrels cannot shrink, swell, splinter or distort.

STEEL BARREL
WARP BEAMS
for BROAD, NARROW FABRIC, RIBBON, VELVET AND CARPET LOOMS

BROADLOOM BEAMS

for C & K and Draper Looms

Shown above is Milton's stud construction (also made with cast iron hubs).

RIBBON LOOM BEAMS

Adjustable head with fixed shaft, or fixed head with removable shaft.

WRITE FOR FREE BULLETINS

MILTON MACHINE WORKS
INCORPORATED
DESIGNERS • ENGINEERS • MANUFACTURERS
MILTON • PENNA.

SUPPLIERS News
WHAT THEY ARE DOING

tion of J. F. Collins, Jr. This new facility permits quicker access for southern industry to Texaco's specialized technical services as well as the company's research facilities.

Textile Machine Works has formed an International Division to be responsible for export sales, foreign service, and management of all phases of the work of its subsidiary companies in Holland, England, France, and Australia. J. Edgar Kline is manager of the new division. Acting assistant manager is LeRoy P. Garrigan who continues as export sales manager.

H. M. Jackson, formerly purchasing agent at Jefferson (Ga.) Mills, is now representative for **Whitinsville Spinning Ring Co.'s** line of spinning and

Mr. Jackson

twister rings in Alabama, Georgia, and Tennessee. His address is 216 Longview Drive, Jefferson, Ga.

H. J. Theiler Corporation has taken over all sales and service activities of the **American Schweiter Co.,** a subsidiary of Schweiter Ltd. of Horgen-Zurich, Switzerland. All parts for machinery sold by the H. J. Theiler Corporation are in stock at its plant in Whitinsville, Mass.

J. H. Markert recently joined the industrial division of **Tower Iron Works** as a sales engineer for the company's textile processing equipment.

Union Carbide & Carbon Corp. has formed a silicones division for the development, manufacture, and sale of silicone products for textile finishing and other purposes. The new division has taken over responsibilities in the field of silicones previously handled by Linde Air Products Co., and marketed under the "Linde" trade-mark. They are now called "Union Carbide" silicones. William B. Humes is president of the division, and T. J. Coleman, formerly general manager of the Linde silicones department, is general manager.

Union Special Machine Company, founded in Chicago in 1881, is celebrating its Diamond Jubilee Anniversary this year. Originally devoted to the building of specially designed industrial sewing machines that would do a single type of work efficiently, the company has developed and expanded its line to include up-to-the-minute, high-speed machines for all sewing operations.

The **United States Testing Co., Inc.,** has opened a complete cotton fiber laboratory in Lubbock, Texas, under the over-all supervision of E. C. Cox, manager of the company's Dallas branch. By bringing their testing facilities closer to the initial movement of the cotton bale, the company can issue a certification for fineness that will travel with the bale for immediate or later shipments. 24-hour service is provided.

H. W. Butterworth & Sons Co. has been acquired by **Van Norman Industries, Inc.** However, Butterworth continues to operate as a separate company, and the entire management has been retained. Elected assistant vice-president was Edward S. Pierce, who continues as sales manager and is responsible for advertising, engineering, research and development. Donald P. Hess, chairman of Van Norman; James Y. Scott, president; and H. I. Segal, chairman of the executive committee have been added to the Butterworth board of directors. J. Ebert Butterworth, president of the textile processing machinery manufacturing firm, has joined the board of Van Norman Industries, Inc. * * * Because of increased demands for Butterworth-built finishing machinery, the company has withdrawn from an agreement to handle sales and servicing of textile machinery made in Germany by A. Monforts, Maschinenfabrik. Inquiries regarding the equipment are being referred to Texplant Corp.

Russel A. Schlegel is now manager of industrial product sales for **Weston Electrical Instrument Corp.,** Newark, N. J. Mr. Schlegel was formerly with Brown Instrument Division of Minneapolis-Honeywell Regulator Co.

Following a merger between the two companies, **Conoflow Corp.** has become an operating subsidiary of the **Walworth Company.** An ex-

New Atlanta, Ga., home of Wrenn Brothers.

pansion of research and development activities, increased inventory, and additional manufacturing facilities are planned for Conoflow.

The Atlanta, Ga., branch of **Wrenn Brothers,** southeastern distributor of materials handling equipment, is now located in the company's new building at 1145 Zonolite Rd., N. E., Atlanta. 50,000 sq ft of space for storage and shop facilities and air conditioned offices are now available there to better serve the firm's customers.

Whitin Machine Works has moved its Atlanta, Ga., office from the Healey Building to newly completed quarters at 728 Spring Street, N. W. The company's new building provides more modern and larger office facilities for textile machinery sales and service personnel; and also provides display space and sales and service facilities for the Whitin Business Equipment Corp., a wholly-owned subsidiary specializing in sales and service of office duplicating machines and supplies. EMerson 7114, 7115, and 7116 are telephone numbers for textile machinery sales and service personnel.

The **Wiesner-Rapp Co., Inc.,** has moved its textile division to larger quarters on Chicago Street, Buffalo, N. Y. The newly acquired plant, with over 20,000 sq ft of manufacturing space in addition to offices, also houses the job shop division. Sales, engineering, and manufacturing activities are now combined under one roof.

Paul R. Minich, Jr., has been named general sales manager of the materials handling division of **The Yale & Towne Manufacturing Co.,** assisted by Joseph J. Murray.

Yale Associates, headed by Gordon A. Yale, Marblehead, Mass., is a new firm of technical sales representatives for manufacturers of measuring instruments in the New England states

Dollars Lost in Shipping and Receiving Operations Can Be Saved

IF YOU'RE not keeping cost records of your receiving-and-shipping dock operations, you may be losing dollars through costly hidden wastes.

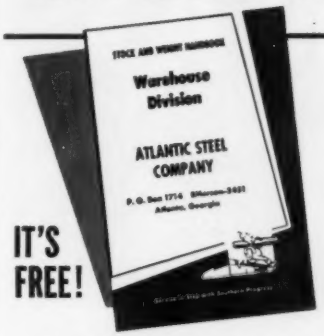
Maintaining such records is simple, costs little, and may result in substantial savings by exposing such inefficiencies as poor utilization of labor or mis-use of handling equipment.

A technique for cost recording is recommended by Neil Drake, partner in the physical distribution consultant firm of Drake, Startzman, Sheahan and Barclay, New York, which recently completed a seven-month, eight-city survey of dock procedures.

To determine the "productivity" of the receiving-and-shipping operation, apply the total man-hours expended in a given period (usually one shift) to the total tonnage handled across the docks in that time. For example, if four men work an eight-hour day and handle 64,000 lb of freight (both receipts and shipments), productivity would be 2000 lb per man-hour.

When figuring man-hours, be sure to include all personnel connected with dock activities, not just the freight handlers. Other persons may be responsible for checking, operating handling

Every Textile Mill Needs This Steel Handbook



IT'S FREE!

Latest, complete stock and weight handbook. Tells at a glance the types, sizes and shapes of steel warehouse products carried for you by one of the South's largest steel warehouses. Saves you valuable time. We'll be glad to send a copy on request. Then, you can easily order by phone, whatever you need, one piece or a carload.

- Cold-finished Shafting
- Carbon Steel Bars and Shapes
- Plates and Sheets
- Structurals
- Stainless Steels

24 to 48 HOUR DELIVERY
Throughout the South
BY TRAIN • BY TRUCK

WAREHOUSE DIVISION
Atlantic Steel Company
575 14th St. N.W., Atlanta 1, Georgia. EMerson 3451

SAMPLE DAILY DOCK OPERATION REPORT

Date _____

Shift _____

Freight (pounds)

1. Receipts _____
2. Shipments _____
3. Total _____ 3A. Total CWT _____

Labor	Hours Chargeable to Dock	Dollars (Equipment Charge or Hourly Wages)
4. Dock Force		4A
5. Supervisors		5A
6. Equipment		6A
7. Total (add 4, 5, 6)		7A
8. Dock Cost per CWT (7A divided by 3A)		
9. Total Hours (add 4 and 5)		
10. Production per man-hour (3 divided by 9)		

Dock Foreman's Signature _____

equipment, spotting, cleaning, and supervising. In addition to direct labor costs, the operating cost of mechanical equipment (fork trucks, draglines, etc.) should be included to give the report complete accuracy. Standard cost accounting methods can be applied to arrive at a fair hourly charge for equipment. And don't forget the cost of pallets.

If the dock works more than one shift, reports should be made for each shift. Accurate records are necessary for total daily production and total daily labor and equipment costs. With these figures, a handling cost per hundredweight can be computed by adding the personnel and equipment costs and dividing by the hundredweight handled.

Once these records are available over a reasonable period, productivity standards can be set. After that the records should be watched for a decline in productivity or a rise in costs. If these appear, investigation may determine that too many freight handlers are being used during lull periods, for example, or that unnecessary part-time hours are being spent on the dock. If equipment costs rise, it may indicate too much equipment is allocated to the dock, or that the equipment is in need of repair.

An easy form to follow in recording dock costs is suggested in the accompanying box.

An Executive Views the News

(Continued from page 100)

some other business and stop worrying about textiles?

Sarcasm, Inc.

Things have, indeed, come to a sorry pass. Since we were old enough to reach the keys to a typewriter, we have admired, venerated, and otherwise looked up to that bastion of free enterprise and staidness, that great American newspaper which modestly purports to print "all the news that's fit to print." We must admit that recent congressional investigations have shaken our faith somewhat; but that shaking was as nothing compared with what we suffered upon reading its editorial of a few weeks ago with regard to the tex-

MIN. COST MAX. PERFORMANCE

With Every Feature You WANT!

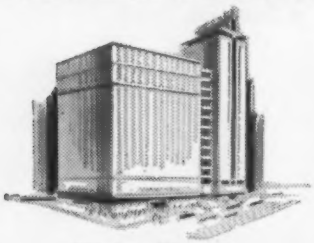
- LONGER LIFE
- COMPETITIVE PRICE
- FREE-RUNNING

Find out how easily and inexpensively we make spools and bobbins to order.

Vermont SPOOLS AND BOBBINS SINCE 1906

234 S. CHAMPLAIN ST. BURLINGTON, VT.

Everything's New at DINKLER HOTELS



THE DINKLER PLAZA
Atlanta

THE DINKLER-TUTWILER
Birmingham

THE DINKLER-JEFFERSON DAVIS
Montgomery

THE DINKLER-ANDREW JACKSON
Nashville

THE ST. CHARLES
New Orleans

Teletype Service to all Dinkler Hotels

DINKLER HOTELS

CARLING DINKLER, President
CARLING DINKLER, JR., Vice President

tile industry's petition to the Secretary of Agriculture that he impose quotas on foreign imports under the provisions of Section 22 of the Agricultural Adjustment Act.

The textile industry in general, says the *New York Times*, and the American Cotton Manufacturers Institute in particular, have been taxing the public's gullibility in an effort to contrive some new and disarming substitute through which they could escape their responsibilities for helping to build the bright new world of tomorrow. "The ACMI," intones the *Times*, "we are asked to believe, is moved predominantly by the spirit of altruism." The ACMI, the editorial would have us believe, is weeping great crocodile tears for the sad plight of the American cotton farmer who, also, is threatened by the same foreign imports.

Well, what the editorial writer failed to see from his swivel chair high above the bustling throngs of Manhattan was that the farmer is crying too. The American cotton farmers know, as the *Times* does not seem to know, that foreign cotton production is just about enough now to take care of foreign textile mills and that he has virtually lost his overseas markets. He knows that if he loses the domestic market that he has then planted his last cottonseed.

If the *Times* had taken the time to investigate, it would have found that such reliable and distinguished farm organizations as the American Farm Bureau Federation, the Delta Council, and the American Cotton Producer Associates have officially recognized the threat of imported textiles.

The Issue of Free Labor

(Continued from page 155)

which cost him money, could easily do a little figuring on what he has gained. When he was making $60 a week, he was out on strike for four weeks because the employer had offered a 10-cents-an-hour increase and the union was asking for 20 cents, and the final settlement was for 15 cents. The strike therefore gained him five cents an hour, or two dollars a week. Losing four weeks of pay lost him $240, and it will therefore take 120 weeks after the settlement of the strike for him to break even on that adventure.

Before the 120-week period had elapsed, the union officials decided to go back after what they had missed the last time, and the same fight occurs, with approximately the same results.

This thoughtful workman may reflect that these strikes have caused tremendous losses to his employer who has been forced to lay off a good many workers on account of shrinking business. This man also reflects that the union made every effort to get him laid off, although he was a much better worker than most of the union members, and only the persistent refusal on the part of his employer to agree to the union request to protect their members at the expense of the non-union workers had preserved his job.

An honest, intelligent man who thinks about things like this would certainly not consider himself a "free loader," but could easily feel that a grievous injustice was about to be inflicted upon him in the attempt to force him to affiliate with an organization which had caused him monetary loss and mental anguish. There is practically nothing that a labor union can do for a working man but get him into trouble unless it exercises monopoly control over an entire industry, or practically all of an industry. Real wages are increased by increases in productive capacity with which the people who run unions have nothing to do.

We earnestly hope therefore that more states will continue to enact "right to work" laws, and that finally our federal government will be prodded into the passage of similar legislation.

There has probably never been a more concise declaration on this subject than that quoted from a letter from Governor Persons: In a free country, nobody should *have* to join *anything* for *any* reason.

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields regardless of when you buy spools and bobbins.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

CLASSIFIED ADS

BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

CLASSIFIED RATES

Rates are net, payable in advance each month. Page is 3 columns, 10 inches deep—30 inches to page. Space measured by even inch vertically by 1, 2 or 3 columns in width. Column width 2¼ inches.
Transient rate for display classified, $16.00 per inch.
Contract rate for space within 12 months period as follows:
12 inches ----------$12.00 Per Inch.

POSITION WANTED: 20c per word per insertion; minimum charge $4.00 Cash with order. Box Number address care of TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga., count as eight words. Advertisements for help wanted, equipment for sale, for rent or wanted, and professional cards are accepted at display rates only.

WANTED

Old Motors or Burnt Out Frames. 75 to 300 H.P. Give complete name plate and condition.

Cleveland Electric Co.

557 Marietta St., N.W.
Atlanta 13, Georgia
Telephone: Lamar 8422

TEXTILE CHEMIST

WE ARE A PROGRESSIVE AND EXPANDING COMPANY LOCATED IN THE UNITED STATES WITH A CANADIAN SUBSIDIARY. OUR PLANS INCLUDE THE ESTABLISHMENT OF LABORATORY FACILITIES IN MONTREAL TO SERVE THE TEXTILE INDUSTRY, PRIMARILY IN THE PROVINCE OF QUEBEC, ON A WIDE RANGE OF TEXTILE PRODUCTS. WE REQUIRE A GRADUATE CHEMIST WITH PLANT EXPERIENCE IN PRINTING AND FINISHING, WHO IS CAPABLE OF HANDLING TECHNICAL PROBLEMS, BOTH IN THE LABORATORY AND FIELD ON SPECIALTIES FOR SIZING, PRINTING AND FINISHING OF COTTON AND SYNTHETIC FIBRES. SOME DEVELOPMENT WORK MAY BE REQUIRED. GIVE DETAILS OF EDUCATION, EXPERIENCE AND SALARY REQUIREMENTS. Reply to Box 748, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 8, Ga.

FOR SALE

RAYON NOVELTY PLANT COMPLETELY EQUIPPED.
30 JACQUARD LOOMS
30 PLAIN LOOMS
WILL TAKE BACK 90% OF MANAGEMENT. Reply to Pawtucket 3-2676, H. L. Slifkin, 254 Central Ave., Pawtucket, R. I.

ENGINEERS

EXEC. POSITIONS IN TEXTILE, PULP AND PAPER, CHEMICAL, AND CONSULTING FIELDS. MANY ARE FEE-PAID. SEND CONFIDENTIAL RESUME. WE WILL DO THE REST.
PAIR PERSONNEL SERVICE
310-314 Forsythe Bldg., Atlanta 3, Ga.

WANTED TO PURCHASE:

"MODERN PACKAGE YARN DYEING PLANT COMPLETE WITH WINDING EQUIPMENT." Reply to Box 744, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

POSITIONS OPEN— We can place gen. supt. cot. mill (So. Am.); knit. mill mgrs., supts., asst. supts., overseers and fixers; mgr. synthetic fabric dye. and finish. plant.; asst. supt. cot. yarn and cloth mill; novelty yarn supervisors. OVERSEERS for corduroy dye. and finish.; rayon piece dye. $100-$125 wk. SECOND HANDS for cot. weav.; Color mixer; time study-industrial and methods engineers up to $10,000 yr.; chemists and chem. engineers; electrical engineer; plant engineer familiar with stretch yarn operations. SEND US YOUR RESUME. Many attractive positions are open for top-notch men. No fee to be paid unless you accept employment through us. Negotiations are confidential. CHARLES P. RAYMOND SERVICE, Inc. OVER 55 YEARS IN BUSINESS. 294 Washington St., Phone LIberty 2-6547, Boston 8, Mass.

WANTED—ENGINEER
INDUSTRIAL AIR CONDITIONING

Established Southern Textile Equipment Concern has challenging opportunity for graduate engineer between thirty and forty with drive, ambition, and integrity. This man will be concerned with all phases of design, engineering, and sale of textile mill air conditioning. All replies held in strictest confidence. Reply to

Box 749
Textile Industries
806 Peachtree Street—Northeast
Atlanta 8, Georgia

FOR SALE

TWO YARN STORAGE DEVICES FOR REINER TYPE SW-24 SECTIONAL WARPER. Reply to Box 750, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 8, Ga.

WANTED

SALESMAN WITH THOROUGH KNOWLEDGE OF MILL PROBLEMS AND TEXTILE MACHINERY TO HANDLE DRAWING, SPINNING AND TWISTER SALES IN ALABAMA, MISSISSIPPI, ARKANSAS, LOUISIANA, AND TEXAS. GUARANTEED SALARY AND BONUS. REPLY to Box 751, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 8, Ga.

WANTED—SERVICE ENGINEER

TO SUPERVISE CREW DRAWING, SPINNING AND TWISTER ERECTORS. MUST HAVE PRACTICAL EXPERIENCE. GIVE RESUME AND SALARY REQUIREMENTS. Reply to Box 752, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 8, Georgia.

TEXTILE BOBBIN WORKS, INC.
P. O. BOX 545
CLINTON, SOUTH CAROLINA

Specializing in repairs, alterations, and refinishing of all textile bobbins. For Quick Sale: Thirty thousand Used 8" enamel quills, $15.00 per thousand. Sample sent on request.

BOBBINS, BOBBINS, BOBBINS

We buy and sell good used Quills, Slubber and Twister bobbins. Tell us what you need or what surplus bobbins you have for sale.

CHARLES G. STOVER COMPANY
West Point, Ga.

W. R. C. Smith Publishing Co.
Dept. T-12A
806 Peachtree St., N.E.
Atlanta 8, Georgia

Please enter / renew my subscription to TEXTILE INDUSTRIES for two years.

Name _____

Address _____

City _____

Company Name _____

Title _____

State _____

☐ **Enclosed find $3.00**
☐ **Bill me for $3.00**

1805 AUCTION 1956

At Auction

in Complete and Final Liquidation

8 Parcels of Industrial Real Estate

650 Lots of Machinery and Equipment

THE DUTCHESS BLEACHERY

DIVISION OF
LOCKWOOD-DUTCHESS, INC.

to be sold on the Premises in

WAPPINGERS FALLS, NEW YORK

8 Miles South of Poughkeepsie on Route 9

WEDNESDAY, MARCH 21, 1956, AT 10 A.M.

Real Estate—Approximately 600,000 sq. ft. of manufacturing floor space—extensive acreage—unusual water supply for power and processing. In active operation till Oct. 1, 1955.

Machinery—Fully and modernly equipped bleachery with continuous bleach unit Morrison Sanforizer (1955) and all auxiliary equipment, having capacity of 1,250,000 yds. per week together with complete sheet and pillow case manufacturing plant having a capacity of 400 cases (10 doz.) per week.

Brands produced: Fine Full Weight (Design), Lockwood Co., Cast Iron, Lockwood Co. (Design); also for Macy, Montgomery Ward, Sears Roebuck and others under special brand names.

AN UNUSUAL OPPORTUNITY TO ACQUIRE MODERN BLEACHING, FINISHING, PROCESSING AND MANUFACTURING MACHINERY FOR SHEETS AND PILLOW CASES AT THE SACRIFICE PRICE OF AN AUCTION SALE.

Plant open for inspection March 19 and 20, or upon application.
By order of Lockwood-Dutchess, Inc.

Write For { (a) Illustrated Brochure of Real Estate
(b) Descriptive Catalogue of Machinery

SAMUEL T. FREEMAN & CO.

Auctioneers

"Over a century and a half of selling at auction"

1808-10 CHESTNUT STREET, PHILADELPHIA 3, PA.

80 FEDERAL STREET, BOSTON 10, MASS.

ADVERTISER'S INDEX

A

Abbott Machine Co. ..... *
Adams, Inc. 189
Advertising Council, Inc. ..... *
Aldrich Machine Works 15
Allegheny Ludlum Steel Corp. 71
Alliance Color & Chemical Co. 33
Allied Chemical & Dye Corp.-Nitrogen Div. ..... *
Allis-Chalmers Mfg. Co. ..... *
Althouse Chemical Co. ..... *
Alvey Conveyor Mfg. Co. 14
American Air Filter Co. ..... *
American Aniline Products, Inc. ..... *
American Associated Consultants, Inc. ..205
American Enka Corp. ..... *
American Lava Corp. ..... *
American Moistening Co. ..... *
American Monorail Co., Inc. 144
American Pulley Company 57
American Red Cross ..... *
American Viscose Corp. 64, 65
Arkansas Company, Inc. ..... *
Armstrong Cork Co. 44, 45
Ashworth Bros., Inc. 160
Askania Regulator Co. 42
Atlanta Belting Co. ..... *
Atlantic Steel Co. 213

B

Bagshaw Co., Inc., W. H. 206
Bahnson Co. 191
Barber Colman (Textile Div.) 76
Becco Chemical Division 2
Bendix Aviation Corp. (Eclipse Mach. Div.) 188
Bijur Lubricating Co. ..... *
Birch Brothers, Inc. 192
Black Light Corp. of America ..... *
Blickman, Inc., S. ..... *
Boger & Crawford ..... *
Booth Co., Benjamin 10
Branson Company 23
Briggs Shaffner Co. ..... *
Brook Motor Corp. 203
Brush Electronics Co., (Instrument Division) ..... *
Buffalo Forge Co. 63
Buffalo Pumps, Inc. ..... *
Butterworth & Sons Co., H. W. ..... *

C

Carbic-Moss Corp. ..... *
Carrier Corporation ..... *
Carter, Inc., A. B. ..... *
Celanese Corp. of America & Subsidiary Cos. 82
Cen-Tennial Cotton Gin Co. 84
Central of Georgia Railway Industrial Development Dept. 101
Chemstrand Corporation ..... *
Ciba Company, Inc. ..... *
Clark Equipment Co., Industrial Truck Division ..... *
Clark-Cutler-McDermott Co. ..... *
Classified Ads 216
Clayton Co., J. M. 46
Cleveland Tramrail Division, The Cleveland Crane & Engr. Co. 60
Clinton Foods, Inc. ..... *
Cocker Mach. & Fdry. Co. ..... Front Cover
Cole Co., R. D. 187
Cole Engineering Corp. ..... *
Colgate-Palmolive Co. ..... *
Collins Bros. Mach. Co. ..... *
Colson Corp. ..... *
Comer-Avondale Mills, Inc. 206
Comer Machinery Co. 96
Commercial Factors Corp. ..... *
Continental Gin Company 80
Cook-P&N Mach. Co., Inc. ..... *
Corn Products Refining Co. 59
Crompton & Knowles Loom Works 11
Curlator Corp. (Textile Div.) ..... *
Curtis & Marble Machine Co. ..... *
Cutler-Hammer, Inc. ..... *

D

Darnell Corp., Ltd. ..... *
Dary Ring Traveler Co. 193
Dayton Rubber Mfg. Co. 20, 21
Diehl Mfg. Co. ..... Second Cover
Dobeckmun Co. ..... *
Dodenhoff Company, Inc., W. D. 210
Dodge Mfg. Corp. ..... *
Dommerich & Co., L. F. ..... *
Dow Chemical Company 55, 152, 153
Draper Corporation 1
Dronsfield Bros. Ltd. ..... *
Du Pont de Nemours & Co., Inc., E. I. (Dyestuff Div.) ..... *
Du Pont de Nemours & Co., Inc., E. I. (Electrochemicals Dept.) 61
Du Pont de Nemours & Co., Inc., E. I. (Finishes Div.) ..... *
Durant Mfg. Co. ..... *

E

Eaton Mfg. Co. ..... *
Economy Baler Co. 202
Engineered Plastics, Inc. 192
Erie Mfg. Co. ..... *
Exact Weight Scale Co. ..... *

F

Fafnir Bearing Co. ..... *
Fairtex Corporation 23
Fancourt & Co., W. F. ..... *
Feedrail Corp. 194
Ferguson Gear Co... 195
Fidelity Machine Company 174
Finnell System, Inc. ..... *
First National Bank of Atlanta ..... *
Fisher Mfg. Company ..... *
Fletcher Works ..... *
Foster Machine Co. 69
Foxboro Company 77
Franklin Process Co. ..... *
Freeman & Co., Samuel T. 217

G

Gair Co., Inc., Robert ..... *
Gaston County Dyeing Machine Co. ..... *
Gastonia Textile Sheet Metal Works 182
Gates Rubber Co. ..... *
Gaylord Container Corp. 19
General Dyestuff Corp. ..... *
General Dyestuff Corp. (Antara Div.) ... 39
General Electric Co. ..... *
General Radio Co. ..... *
Georgia-Carolina Oil Co. 207
Goodrich Chemical Co., B. F. 88
Goodyear Tire & Rubber Co., Inc. (Chemical Prod.) ..... *
Griffin & Son, Ira L. ..... *
Gubelin International Corp. ..... *
Gulf Oil Corp. 35

H

Harshaw Chemical Co. 75
Hart Products Corp. 98
Hartford Machine Screw Co. 30
Hayes Industries, Inc. 72
Hayssen Mfg. Company ..... *
Heat Timer Co. 190
Hercules Powder Co. 73
Hermas Machine Co. 211
Herr Mfg. Company 66
Hillyard Chemical Co. ..... *
Hinde & Dauch Paper Co. ..... *
Holyoke Machine Co. ..... *
Hotels Dinkler 214
Howard Bros., Mfg. Co. ..... *
Hubinger Co. ..... *
Hunt Machine Co., Rodney ..... *
Hunter Machine Co., James 102
Hyatt Bearing Division ..... *
Hyster Company ..... *

I

Ideal Industries, Inc. 88
Ideal Mach. Shops, Inc. ..... *
Industrial Rayon Corp. 28, 29
International Salt Co. Inc. ..... *

J

Jacobs Northern Div., E. H. ..... *
Jenkins Metal Shops, Inc. ..... *
Jenkins' Sons, Inc., M. W. 12
Johnson Corp. 32

K

Kaumagraph Company ..... *
Keever Starch Company 164
Kidde & Co., Inc., Walter 79
Kidde Mfg. Co., Inc. 51

ADVERTISER'S INDEX

L

Lane & Bros., Inc., W. T. ..... *
Lanolized, Inc. ..... *
Laurel Soap Mfg. Co. 201
Lazenby & Co., F. A. 202
Lee Co., L. A. 208
Lenkotex Company, Inc 186
Lincoln Engr. Co. 158
Livermore Corp., H. F. ..... *
Lockwood Greene Engineers ..... *
Logan Co. 24
Logemann Brothers Co. ..... *
Loper Co., Ralph E. 208
Louden Machinery Co. ..... *
Ludell Mfg. Co. ..... *

M

Maguire & Co., Inc., John P. ..... *
Marquette Metal Products Co. ..... *
Marshall & Williams Corp. ..... *
Meadows Mfg. Co. 26
Meese, Inc. 184
Merrow Machine Co. 168
Metro-Atlantic Chemical Co., Inc. ..... *
Micro Switch Division Minneapolis-Honeywell Regulator Co. ..150
Miller Fluid Power Co. ..... *
Milton Machine Works 212
Monsanto Chemical Co. ..... *
Monticello Bobbin Co. ..... *
Morton Machine Works 34
Morton Salt Co. 151
Mount Hope Machy. Co. 196
Muller, Franz ..... *

N

National Aniline Division Allied Chemical & Dye Corp. 43
National Business Publications, Inc. .... *
National Ring Traveler Co. ..... *
National Starch Prod., Inc. 47
National Vulcanized Fibre Co. ..... *
Naugatuck Chemicals Div. 91
Neptune Meter Co. 8
New Departure Div. 146
New England Bobbin & Shuttle Co. ...204
New York & New Jersey Lubricant Co. .. 58
Nitrogen Division, Allied Chemical & Dye Corp. ..... *
Nopco Chemical Co. ..... *
Norgren Co., C. A. 16
North, Inc., Frank G. 209

O

Oakite Products, Inc. 204
Olin Mathieson Chem. Corp. ..... *
Orr & Sembower, Inc. 40

P

Pabst Brewing Co. ..... *
Pannellit, Inc. 197
Parks-Cramer Co. 13
Penick & Ford, Ltd., Co. 53
Perfecting Service Company ..... *
Perkins & Sons, Inc., B. F. 148
Pharma Chemical Corp. ..... *
Pick Mfg. Co. 197
Pittsburgh Corning Corp. 163
Pneumafil Corporation ..... *
Powell Valves ..... *
Proctor & Gamble Distributing Co. ..... *
Proctor & Schwartz, Inc. 78
Product Sales, Inc. 31
Pure Oil Company ..... *

R

Ragan Ring Co. 6
RCA Engineering Products Div. ..... *
Reiner, Inc., Robert 22
Reliance Elec. & Engineering Co. ..... *
Rhoads & Sons, J. E. 74
Richards-Wilcox Mfg. Co. 52
Ridge Tool Co. ..... *
Riggs & Lombard Inc. ..... *
Robert & Co. Associates Inc. 220
Roberts Company 5
Rohm & Haas Co. 9
Ross Engr. Corp., J. O. ..... *
Roy & Son Co., B. S. ..... *
Royce Chemical Co. .....Fourth Cover

S

Saco-Lowell Shops 41, 156
Sandoz Chemical Works ..... *
Sargent's Sons Corp., C. G. 56
Scheer Co., Inc., Geo. 208
Schlafhorst & Co., W. ..... *
Scholler Bros., Inc. ..... *
Seamlex Company, Inc. 190
Seydel-Woolley & Co. ..... *
Simco Company 204
Sims Sheet Metal Works 185
Sinclair Refining Co., Inc. ..... *
Sirrine & Co., J. E. ..... *
Smith, Drum & Co. ..... *
Solvay Process Division, The Allied Chemical & Dye Corp. 159
Sonoco Products Co. 17
Southern Airways, Inc. 92
Southern Shuttles Div. 94, 95
Southern Sizing Company 36
Southern States Equip. Corp. 48, 49
Spindles, Motors and Machines, Ltd. ... *
Spin Sa Vac, Inc. ..... *
Staley Mfg. Co., A. E. 62
Standard Brands, Inc. 27
Standard Chemical Prod., Inc. ..... *
Steel Heddle Mfg. Co. 94, 95
Stein, Hall & Co., Inc. ..... *
Stowe-Woodward, Inc. 7
Strandberg Engineering Laboratories ... *
Super Tufter, Inc. ..... *
Swift & Company ..... *
Synthane Corp. 70

T

Talcott, Inc., James ..... *
Taylor Instrument Companies 81
Technical Oil Tool Corp. 186
Tennant Co., G. H. 38
Tennessee Corp. ..... *
Terrell Co. 167
Texas Co. ..... *
Textile Apron Co. 202
Textile Industries 168
Textile Machine Works 170
Textile Paper Products, Inc. 4
Textile Shield Co., Inc. 215
Textile Shops ..... *
Thomaston Mills ..... *
Tillicum Rubber Co. ..... *
Toledo Scale Co. 50
Ton-Tex Corp. 194
Tool Service Engineering Co. ..... *
Torrington Co. 172
Treasury Department ..... *
Truscon Laboratories 18
Trust Company of Georgia 97
Turbo Machine Co. ..... *
Tyler Rubber Company 182

U

U. S. Ring Traveler Co. ..... *
U. S. Textile Mach. Co. ..... *
United Elastic Corporation ..... *
United States Rubber Co. (Naugatuck Chemicals Div.) 91
Universal Winding Co. 176, 177
Uster Corporation ..... *

V

Van Vlaanderen Co. ..... *
Veeder Root, Inc. .....Third Cover
Vermont Spool & Bobbin Co. 214
Vickers, Inc. Division of Sperry Rand Corp. 154
Victor Ring Traveler Co. ..... *

W

Wallerstein Co., Inc. ..... *
Walton & Lonsbury Co. ..... *
Want Ads 216
West Point Fdy. & Mach. Co. 198
Westinghouse Electric Corp. (Sturtevant Division) 54
Whitin Machine Works 25
Whitinsville Spinning Ring Co. 196
Wica Chemicals, Inc. 37
Wicaco Machine Corp. ..... *
Wiesner-Rapp Co., Inc. ..... *
Wildman Mfg. Co. ..... *
Wonalancet Company 206

Textile Engineering
STORAGE & WAREHOUSING

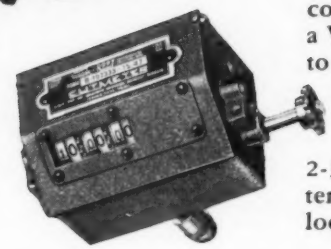
Clean-cut, accessible storage and warehousing has again and again proved its value in time-saving in the textile field. Illustrated is a racked-storage installation, planned by the Textile Engineering Division of Robert and Company Associates. It offers complete floor-to-ceiling storage, with instant package-availability from any level. No need to tear down the stack; center or lower packages can be swiftly reached, with a minimum of handling! This maneuverable aid for mechanized handling represents only one of many Robert and Company plans which have helped textile leaders to realize their profit potential. Asking for an engineering survey *now* means that 40 years' experience is immediately at your service. What has helped others to major progress can be applied to your operation, regardless of your package type or size.

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

In Spinning...

New Veeder-Root 2-3-4 Convertible Hank Counters are easier to read, reset and maintain. And they are built to give you years of accurate facts-in-figures that help toward closer production *Count*rol.

Weaving...



Here's the combination to count on . . . *on every loom* . . . a Veeder-Root Cut Meter (left) to light a light or stop the loom at a pre-set woven yardage, *assuring uniform cuts of cloth* . . . and a new Veeder-Root 2-3-4 Convertible Pick Counter to keep accurate count of loom production on each shift.

Knitting...

For any type of knitting machine, Veeder-Root makes the counters you need to control your production. These new Revolution Counters, with the same advantages as the new 2-3-4 Convertible Hank and Pick Counters, can also be geared to record racks, or racks and tenths. In Fact, In Any Department of Any Type of Textile Mill . . .

VEEDER-ROOT

IS "THE NAME THAT COUNTS"

HARTFORD 2, CONN.
Tel. Jackson 7-7201

GREENVILLE, S. C.
Box 297, Tel. Greenville 3-1371

smart printers
say
DISCOLITE...

DISCOLITE®...

CONCENTRATED SODIUM SULPHOXYLATE FORMALDEHYDE

...when they want the best high temperature reducing agent for vat colors and discharge pastes.

HIGH TEMPERATURE EFFICIENCY ... practically *no loss* of strength at high temperatures.

ECONOMICAL ... DISCOLITE is concentrated, yet dissolves readily.

VERSATILE ... equally fine performance in white or colored discharge printing — or indigo printing.

GOOD FOR STRIPPING, TOO ... sometimes effects stripping where other stripping agents fail to react.

GUARANTEED QUALITY ... strict Royce laboratory control guarantees a safe, stable product that is uniform.

Drop us a line today. We'll send you data sheets and complete information—the whole DISCOLITE story.

ROYCE CHEMICAL CO

Royce

CHEMICAL COMPANY • CARLTON HILL, NEW JERSEY

Manufacturers of Chemicals for the Textile Industry